MANUAL

FOR

GEORGIA TEACHERS

Published By The

Department of Education

ATLANTA, GEORGIA

M. L. BRITTAIN

State School Superintendent

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PREFACE.

For the last few years there has been a constantly increasing demand for a new Manual of Methods. The one we have had is good in many particulars, but no matter how excellent a work of this kind may be it wrongs the teachers of a State to force them to study it continuously for many years. My predecessor, Hon. J. M. Pound, felt this truth and two years ago asked several of us to aid in the preparation of a new text. Circumstances prevented the accomplishment of the task at that time, however, and so for months past I have been securing manuscripts from the well-known educators who have contributed the best part of this volume. The State is under obligations to them for this service. As will be seen by reference to the writers, there is not an impractical theorist among them. They have demonstrated by efficient and notable service their ability to "practice as well as preach" that which is accepted as best in a modern education. In addition to the topics treated in the old Manual we have added History of Education, Special Day programs, the chief features of the State school laws and other material, endeavoring to make the work an indispensable hand-book for Georgia teachers.

With the hope that it will prove both helpful and stimulating, I am

Sincerely,

M. L. BRITTAIN,
State Superintendent of Schools.

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Term ending September 5, 1915.

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History and Principles of Education.

By T. J. Woofter,
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I. Introductory.

Education is conscious evolution, and it begins when man first gives direction to his own development. Species of animals and of plants have been formed under natural law without what we call conscious direction toward an end to be attained. As a higher being, man can consciously direct, at least in part, his own development, and it is the function of education to give his direction. This direction must keep in mind two phases of development, one for harmony in his individual nature and the other for harmony in his environment. These are respectively the individual and social phases of education.

In their educational practices and theories primitive peoples have been pretty much alike the world over. At first the children play at things in the direction of their life's needs, such as shooting, riding a log in water, etc., and when older, they are called upon to assist their elders. But these people also have some theories about life. They have their own tribal traditions, their folk lore, and especially their notions about the unseen and the unreal. They believe that every natural object is inhabited by some spirit, of enemy or friend, and to be successful they must placate these spirits. Their notions of all such they attempt to teach to the young through initiations, dances, and other ceremonies. They thus have their theoretical as well as their practical education. It is crude and unorganized, but it contains in germ what education always has been. Little by little through the ages, man organizes education more completely and becomes more fully conscious of what education can do. However, there have been different conceptions at different ages as to what are the ends and means of education. A favorite aim today is *social efficiency*.

II. Organization.

The history of education is involved in the general history of the world. The division into three periods, ancient, mediæval and modern, lends itself better to a presentation of the history of education than does the now customary division of general history into ancient and modern.

Seely in his History of Education styles these three divisions, 1, Pre-Christian; 2, Earlier Christian; 3, Modern.

Ethnologists have divided mankind into certain kindred groups or races. 1. The Hamitic Races, including the Egyptians, the Ethiopians to the south of Egypt, Libyans to the west, some Arabians, and the Hittites. 2. The Semitic Races, including Arabs, Babylonians, Assyrians, Phœnicians, and Hebrews. 3. The Turanian Races, including Mongolians, Chinese, Coreans, Japanese, Tartars, European Finns, and others. Some think the American Indians belong to this group. 4. The Aryan or Indo-European Races, including Hindus, Medo-Persians, Greeks, and Romans.

In the ancient period the Hamitic found highest expression in the Egyptians; the Semitic in the Hebrews; the Turanian in the Chinese; and the Aryan in the Greeks, with the Romans a close second.

In treating the ancient period all of these are worth while, though in these short articles any treatment must be very brief. We shall select for special treatment the Chinese and the Greeks.

In the mediæval period, the world passes into what is known as the "Dark Ages," and out into the light again through the Revival of Learning which marks the beginning of the modern world. Christianity becomes a great world factor which dominates most of the education of this period.

In the modern period we deal first with the great movements such as the Renaissance and the Reformation, the Counter-Reformation of the Jesuits, the Revival of the Scientific spirit, and next with great individuals, such as Rousseau, Pestalozzi, Frœbel, Herbart, Herbert Spencer, and Horace Mann. All of these throw light upon our ideals and practices of today, and their study will broaden the views of teachers, will help to give shape to a body of doctrine for each teacher so studying, and will thus point many a valuable lesson and give definite aims to teachers of any day and time. History of education is a foun-

dation study for the profession of teaching. It should be written over every school house door, "Let no one ignorant of the history of education and of psychology enter as teacher here."

III. Chinese Education as a Type of the Oriental.

China, the most venerable of the nations of the earth, was old when many nations now dead were young. Its accepted history dates from 2500 B. C. It is probably true that examinations for public offices were held by a ruler 2200 B. C.; certainly the government had become accustomed to examine candidates for offices so early as 1115 B. C. This system of examinations is thus the oldest educational institution in the world, for China's system of education crystallized into a system of examinations rather than a system of schools. These examinations were the doorways to the public offices, and these offices were the highest posts of honor. No caste system, as in India and Egypt, debarred any man from rising, neither was there a House of Lords by right of birth, as in England. It was decreed that nearly all positions of honor should go to those highly educated.

The authorities thought that this was encouragement enough, so they did not institute schools, but contented themselves with instituting state examinations, the controllers of which constituted the Hanlin, or Imperial Academy of Pekin. This Hanlin organized periodical examinations for all who chose to present themselves, the sons of barbers and players being about the only ones excluded. The organization, which lasted till the twentieth century, was made in the seventh century (617 A. D).

The empire was divided into nineteen provinces, somewhat like our states. Each province was divided into departments and these further sub-divided into districts. The system of examinations ran largely parallel with these civil divisions.

(1) There were preliminary examinations held in these districts by the educational mandarins.

(2) Those who passed the preliminary examinations might go forward to the examinations in the departments, held twice every three years. He who passed a departmental examination, got a degree, Flowering Talent, or Budding Genius. He could wear a button on his cap and was considered a little above the common citizen, or in the lowest rank of aristocracy.

(3) Every three years the Flowering Talents had an opportunity to pass a higher examination at the provincial city. This was a severe examination and, if passed, the degree of Licentiate, or Promoted Scholar was conferred. The recipients could adorn their caps with a gilt button and had many special privileges.

(4) The Licentiates might next compete for the highest degree, Entered Scholar, or Fit for Office, which was conferred once every three years.

Very few schools were instituted by the State. Practically all were private and were taught by those studying for a higher degree and waiting for office. The schools were conducted in the homes of these teachers, or in private houses rented by them. Tuition was charged for support.

Speaking generally, there were three grades of instruction, which we may call primary, middle and higher, corresponding to the three examinations for degrees. In a primary school the pupil enters at about seven years of age. His first book of study was known as the "Three-Character Classic," an introduction to classical literature. It is full of moral generalizations of an abstract character. The pupil must commit to memory and master the symbols, their shapes and sounds. In this book there are about 400 separate characters, representing about 1,000 words. Next he had to commit to memory the "Thousand Character Book." Then he was ready to take up the "Four Books" and the "Five Classics." These are sacred books of Confucius and were of great importance in the competitive examinations for degrees. All of these were committed to memory without anything like explanation or commentary. The object was simply to give the child a rote-knowledge of the words and forms of the literary language. And these books are written in language not now spoken in China, a language as different from the language of the pupil as Anglo-Saxon is different from our English of today.

In the lower stages, it was purely a training of memory. "The object of the teacher was to compel his pupils first to remember; secondly, to Remember; thirdly and evermore, To Remember."

In the higher stages, more attention was given to translation, to commentaries on the sacred books, and especially to

writing compositions and verses in perfect conformity to classical usages. Repetition and conformity to past usages were emphasized, originality being of little importance.

We can see at once that intellectual results must be barren. The system, the methods, and the narrow range of studies all contribute to the poverty of the results.

Not only Chinese history, but all history teaches that the greatest work of a State can be done through schools properly instituted and operated by the State. With powerful incentives to urge the Chinese on, private schools have been failures.

Mere memory work in the intellectual field and mere dogmatic teaching in the ethical and religious fields will produce almost barren results. It is the intelligence, the free movement of mind evoked in the young, that alone truly educates. With the Chinese this individuality, self-activity of the intellect, is suppressed, and we see the results in a civilization that stood still for over 2,000 years. We have thus in the method of the Chinese, and in the method of self-activity as expounded by Froebel and Herbart, two opposite poles of procedure. Choose you this day which you will follow. Even education for citizenship in the narrow sense falls short as an ideal. We must educate a man for the man's sake, so as to develop the latent possibilities of his whole being. This means the education of woman as well as man.

This very brief treatment omits much of great interest in Chinese education. A full and most interesting discussion of Chinese and Oriental education is found in Laurie's Survey of Pre-Christian Education. Early in 1900 some modern studies were introduced, and now, in the second decade of the twentieth century, the old order seems to be at last giving way to progress and democracy.

IV.—THE CLASSICAL PERIOD OF EDUCATION.

The Greeks.

Greece and Rome are called the classical nations, for they have given to the world such a rich heritage. They were the earliest nations of Europe, but we are still living under their influence. Greece developed the most brilliant culture of antiquity and Rome governed the greatest ancient empire. Because of their

wonderful achievements and our rich heritage, these nations will always occupy a prominent place in history.

Greece was composed of a number of small States, two of which are taken as types, Sparta and Athens.

Spartan Education.

The Spartan Greeks were invaders, claiming their country by right of conquest. The original inhabitants, Perioeci, were permitted to be farmers, artisans, etc., and had to pay rent and taxes, but had no political rights. There were also many slaves, Helots, mostly captives of war. These two classes hated the Spartans, and since they outnumbered the Spartans, sometimes ten to one, the Spartans were greatly concerned in keeping them in subjection. This immediate demand of the Spartans' surroundings furnished their aim, which was military control.

When a Spartan child was born, a State committee decided whether it should live or die. If they thought it would grow up weak or sickly, it was left out in the mountains to perish. Healthy children remained with their parents until seven years of age, and then they were turned over to the public to be trained all alike. They had to live in public dormitories, where they must endure hardships, wear scanty clothing, eat scantily, and thus train for the hardships of war.

The boys were taught running, leaping and playing ball. Later, boxing, riding, swimming, throwing the discus and the javelin, dancing, and military evolutions were added.

Of reading, writing or literary education there was none. The boys had to learn something of the deeds of the gods and heroes, war songs, and commit to memory for chanting certain portions of Homer for heroic inspiration. Bravery, temperance, and truthfulness were inculcated.

Girls received about the same gymnastic training as the boys. This was to make them strong and healthy as mothers and trainers of children.

From twenty to thirty young men were kept in barracks and were kept in constant military training. Married men had to eat at public tables except on rare occasions when permitted to eat at home. This was to keep them from luxurious living which is enervating.

Such is a brief of Spartan education. The results were

that a strong and hardy people were produced, beautiful in body and invincible in battle. Yet aside from the stirring memories of heroic deeds, Sparta is dead, but Athens still lives; and when we speak of our rich heritage from the Greeks we refer to Athens, not Sparta. Something more than the physical, something more than the immediately practical is needed in our education. Sparta had both of these and appeared for martial supremacy, but having attained this there was nothing to sustain her, and her fall was speedy.

Early Athenian Education.

Behind every educational system is the philosophy, the motive, the ideal of the people. The Athenian ideal was quite different from the Spartan, and the achievements attest the superiority of the Athenian. Homer's Iliad is a classic which has charmed all readers and which is yet studied as a masterpiece. In sculpture and architecture the world yet imitates Athens. The orations of Demosthenes are still models. And Socrates, Plato, and Aristotle wrought out the world's first great philosophy.

They believed in the education of the body, as did the Spartans, but for a different purpose. They were pre-eminently aesthetic. Beauty and harmony were great words with them. And so they aimed to develop beauty, harmony, symmetry of body. They went further and gave to the world the idea that appropriate exercise developed the mind. This they seemed to discover through the peculiar influence of music on the mind. So music became their central subject and they recognized education as development.

Let us briefly note their educational scheme. During the primary period the boy attended daily two different schools, one the palaestra, or physical culture school, the other the literary or music school. These were often in different parts of town, and the young pupils were accompanied and guarded by a faithful old family slave, called a pedagogus or pedagogue. In the palaestra there were systematic games and exercises for the development of the body.

In the literary school the pupils were taught to read, to write, and to count, yet music was stressed as the great subject. Boys were early taught to chant the great epics of their country, to

sing hymns every day, and later to play accompaniments upon the cithara, the lyre, etc. Music was with them a broader subject than with us. It is thus estimated by Aristotle, a profound thinker: "Music brings harmony first into the human being himself by putting an end to the conflict between his passions and his intelligent will, and then, as a consequence, into his relations with his fellows."

In reading, the pupils were taught the alphabet in very much the same old way some of us were taught. But early they were put to reading the very best the race had produced. The Iliad and the Odyssey have been styled the Greek boy's reader, Bible, Shakespeare, and history all combined. He listened to stories from these, later read them, and soon his reading lessons were expressions through acting as applied today to the stage reader. So you must see that they made DOING a prominent factor in their education.

At about fifteen years of age and until about eighteen, the boy left these primary schools for the gymnasia where they received their finishing education through gymnastic training. These gymnasia were surrounded by beautiful parks and pleasure grounds and were frequented by men as well as youths. As places of meeting they became centers for discussion and two of them became noted schools world-famous, the Academy, made famous by Plato, and the Lyceum, made famous by Aristotle.

For some time the youths from eighteen to twenty had to live in camps and the army for military training, but this feature was not so stringently exacted in later times.

Gymnastics to give harmony to the body, and music to give harmony to the soul was their dominant ideal. And what were the results? We have already enumerated some of their wonderful achievements. They developed the most gifted people of all the ancients. Indeed, it is claimed by many that these Greeks were the most beautiful and the most original people that ever lived.

We should learn from them that beauty of body is worth while; that in attaining this beauty we also attain health and strength; that physical education is important and should be given as much time as, if not more than, literary education.

Herbert Spencer was right in claiming that our first duty to the child is to make it a strong, healthy animal.

We should learn from them that the aesthetic emotional in our natures should be more fully appealed to. They put chief emphasis here and we are putting it on intellect, stressing knowledge. Not only music, but pictures, sculpture, poetry, etc., should have more prominent place in our schools. We should not decry these as not practical. To limit the practical aim to the immediate demands of environment is to be guilty of the shortsightedness of Sparta.

We need agriculture in our schools and technological training, but we should not accept these as the highest ends and let them blind us to the life and light that education should bring to the world. No people who have thus stressed the practical have produced originals as did these Greeks.

We should learn that our children should be taught and that education is largely a doing, not a mere *knowing*. We are making a little headway here.

We should learn that our children should be taught to chant the deeds of heroes, even our Southern heroes, and should be brought in contact with only the best in literature, and should read our classics.

We could multiply these lessons, for we can sit at the feet of the Greeks for many things. But we must close with a negative lesson. This wonderful culture of the Greeks was for a few. Probably three-fourths of the people were slaves and were not considered, neither were the women educated. Such a civilization could not endure, and Greece as a nation passed. Education should be universal.

Later Athenian Education.

The Athenian education of the early period was extended to include two additional years of physical training in the gymnasia and two of military service. When their civilization developed, a more practical education was demanded. At first a set of teachers known as Sophists sprang up to meet this new order. They were traveling teachers who stressed grammar, rhetoric, and argument. With them and differing with them appeared one of the world's greatest men, Socrates, who was followed by his noted pupil, Plato, who in turn was succeeded

by his pupil, Aristotle, the greatest mind of all antiquity. These should be studied more fully than can be developed in this outline. Instead of the higher physical training and the military service, a literary and philosophic education was substituted; and the gymnasia became more like colleges.

Socrates (469-399 B. C.)

1. Wherein did he differ with the Sophists as to universal truths?

2. Explain the famous Socratic Method. It has made him famous as the father of induction and definition.

3. What were the ideas of Socrates as to freedom and happiness?

Plato (429-347 B. C.)

Definition: "A good education is that which gives to the body and to the soul all the beauty and all the perfection of which they are capable."

His ideal was *harmony.*

His famous school was called The Academy. He wrote the Republic and the Laws. In the Republic we have the first treatise on education, the first scientific scheme of education in history. In his ideal republic there were to be three classes of people, laborers to provide, soldiers to defend, and philosophers to rule. Education should find out which class one belonged in, then it should fit him for that. So education was to be the greatest factor in making an ideal republic. The children were to be turned over to the State for development. This offered equal opportunity for all. Women were to be on equal footing with men, thus anticipating the twentieth century woman.

Aristotle (384-322 B. C.)

Aristotle was a great scientist, the first one to formulate natural sciences as well as other fields of knowledge. He wrote on physics, psychology, zoology, astronomy, rhetoric, logic, ethics, metaphysics, and other things. Deductive logic is studied today very much as formulated by him. He was a great inductive worker in natural science and other things, though he did not formulate inductive logic.

His theory was one of *development,* and he believed that

the highest of all arts is Politics, the art of directing the development of society for the betterment of mankind. Such an art is being developed in what we today call Sociology, and education is included therein.

Thus Aristotle probably deserves to be styled the father of modern sciences, natural and social, and the greatest mind of all antiquity. His school was called the Lyceum.

After Aristotle we have no great Grecian philosophers. Greece declines, and the world moves westward to Rome.

The Romans.

The Roman type of mind brings quite a contrast with the Grecian. The Greeks were philosophical, the Romans practical; the Greeks original, the Romans eclectic. Their education was superficial, at first aiming at the barely practical, later on introducing Greek schools. Though the Romans became the great organizers and law-givers of the world, we learn very little from their education.

Quintilian (35-95 A. D.) was their most noted educational writer. In his treatise, Institutes of Oratory, he treats education on its practical side, discussing the art of teaching and school management. This is the first book treating of the art of education.

Cicero, Seneca, Pliny, and Plutarch were other writers. Pliny was a naturalist, and Plutarch's Lives of Illustrious Men gives us an idea of how they used biography to good purpose. This book is yet widely read.

Roman life finally became very corrupt, and with the coming of the Barbarians from Northern Europe, we pass into what has been called "The Dark Ages."

V.—Middle Ages.

With the decline of the ancient world, its learning passed over to Alexandria, Arabia, and the Saracens who made advances in mathematics, physics, medicine, etc. In Europe Christianity came in as a new element in the civilization of the world and gradually grew to dominate its thought and its life. The Germanic barbarians from Northern Europe took possession of Rome and nearly all of Europe, but these sturdy barbarians became ready converts to Christianity. Christianity or-

ganized about monasteries as its chief centers, and the secular society of Europe organized about great castles of the Feudal System and Chivalry.

Some new doctrines injected by Christianity:

1. This life is but a preparation for a city not of this world.
2. God is the father, and all mankind are brethren.
3. Man does not belong wholly to State, but owes spiritual allegiance to God.
4. The basis of life is in the moral nature, not in the intellectual as held by the ancients.
5. Individuality is of prime importance, for each individual is a soul.

The influence of 2 and 4 did not count for aristocracy but held out hope to all classes of people, even the poor and the lowly, hence the ready acceptance of Christianity.

Number 3 came from "Render unto Caesar the things which are Caesar's and unto God the things which are God's." The spiritual allegiance came to be the highest and the Pope the ruler of the world.

Number 1 led to "otherworldliness," a denial of the things of this world, and to asceticism as the chief principle of life.

Coupled with the above was the belief current for about two centuries, that Christ was coming again at once to set up his spiritual kingdom, hence what the use of worldly goods? Also, in the ancient literature and philosophy was the stronghold of paganism, and the church soon put these under the ban as evil. Thus ancient learning nearly perished, commerce sank to a low ebb, and Europe was plunged into the dark ages.

The school work was given in the monasteries. It consisted of reading, since reading each day was part of their program; writing, since manuscripts must be copied and exchanged with other monasteries; arithmetic and astronomy, just enough to keep church accounts and the church calendar of days; music, for church services; and the catechism. The reading was of the scriptures and commentaries on religion, the classic literature being excluded. Such was the meager program of learning. Later, all knowledge was organized in the Seven Liberal Arts, but outside of the above program, these were very barren. A few monasteries here and there were more liberal, especially in Northern Germany and Ireland.

Why this meagerness? (1). The ancient learning was under ban, and there was but little else to study. (2). The barbarians were not ready for much learning, the Romans were decadent, and the greatest need of the time was for a training to moral character. This was given.

VI.—The Later Middle Ages and the Beginning of the Modern World.

The close of the old world was also the beginning of the new, for there was no abrupt change but gradual transition. Though the transition was gradual, still there were periods which stand out as ones of greater reform.

The first systematic attempt to revive the world was made by Charlemagne, or Charles the Great, who became ruler of the Frankish dominions, 771 A. D., and on Christmas day, 800, was crowned Roman Emperor by the Pope. His empire covered the greater part of Europe. He was truly a great man who saw the needs of his time and strove to meet them. He realized that this vast empire was such a heterogenous collection that it needed unity of sentiment and education. He saw the nearest approach to this unity in the Christian church, so through the church he wanted to unify and to educate. He ordered that the church services be rendered more in the native tongue and not so much in Latin; also that the monks become real teachers, first educating themselves where necessary, then teaching the people. Many of the monks had become lazy and were ignorant, unable to write their own names.

Charlemagne founded a Palace School, he and his children becoming pupils. He called Alcuin of England, one of the learned men of the time, to be the director of the school and of education generally. If he could have carried out his plans and realized universal education, this would have been the great revival such as the Renaissance was later. But after his death, his successors could not hold the empire together, the priests were many of them too lazy, and so the movement failed, though its influence was manifest in some monasteries and men here and there awakened to a new interest in education. Charlemagne's era is taken by many historians as the beginning of the modern world.

About the year 1100 began another thought movement,

which was a partial revival of learning. The learning and religion of Mohammedans were invading Europe. Christianity was put in an attitude of defence. Her dogmas which had been held to be the only truths worth knowing had to be justified by an appeal to reason. Men were thus set to arguing. This attempt to prove that the dogmas of the church were in accord with reason has been called Scholasticism. One result was a revival of some of the ancient philosophy, and more especially the deductive logic of Aristotle. Men's intellects were quickened through argument, theology was formulated as a science, but after some centuries the movement degenerated, the debates descended to such trivialities as "How many angels can stand on the point of a needle?" "Why an apple and not a pear given by Eve to Adam," "Why not baptize in air as well as in water," etc. The first modern universities came into existence with this movement.

A third movement gaining great headway the latter part of the fifteenth century revived the whole culture of the Graeco-Roman world. This is known as the Renaissance, or the true Revival of Learning. People began to be interested in the ancient literature; to awaken to appreciation of its wondrous charm and wealth of human nature. Greek and Latin manuscripts were eagerly sought and devoured. In Italy this took a pagan turn in its moral influence, but in Germany it took a religious turn under the guiding intellect of Martin Luther. But people became so fascinated with the ancient learning that their own languages were considered vulgar. They even changed their names to Latin ones and signed these Latin names to letters to their most intimate friends. The ancient languages and literature contained all that some thought worth knowing, and, to such people, only the man versed in Greek and Latin was truly educated. Education in the schools becomes one of Latin and Greek. This doctrine of Graeco-Latin learning has been called Humanism. Many things conspired to make this a complete revival of the world. Along with this discovery of human wealth in ancient literature came other discoveries, America, the Copernican Theory, the invention of printing and of gunpowder, and thus men's thoughts were turned into new channels. This revival lasted and we are today living under its influence. We should note first its influence on education men-

tioned above. Latin and Greek took possession of the schools almost in toto. Finally John Sturm of Strasburg, (1538-1583), formulated a course of study of ten grades for his school which so completely organized Latin and Greek teaching that he is known as the Prince of Humanism. This course began with Latin in the lowest grade continuing with nothing but Latin till the fifth grade, when Greek also was introduced for the remaining grades. This course became a model for other schools. In England the celebrated schools of Eton, Rugby, etc., were after Sturm's model. Its influence reached this country shaping the early schools of New England and New York, which were called Latin Grammar Schools.

Many universities had been established over Europe, and these found the new-old Latin and Greek adapted to their needs. Humanism succeeded in getting such a strong grip on education that it has taken many centuries to weaken it. Only a few years back our colleges and high schools taught almost nothing more than Latin, Greek and a smattering of mathematics. Science and history had to beg and fight for recognition. And even yet many men may be found clinging to the ideal of humanism and believing that only the Latin and Greek scholar is the truly educated person.

The revival of learning took a peculiar turn in Germany. The people here looked upon the revival of ancient languages and literature from the standpoint of aid to religion through new light thrown upon the Bible. The result was the Protestant Reformation. This was a revival of reason in religious matters.

Martin Luther (1483-1546) was a great leader of the Reformation. He not only cried out against many corrupt practices grown up in the church, such as the sale of indulgences, but he insisted that religion based on the authority of the church was contrary to the scriptures. He held that every man must work out his own salvation, that the Bible should be his sole rule and guide, hence every man his own priest and interpreter. Here began a long struggle between authority and reason, supernaturalism and science, not yet ended. Giordano Bruno was burnt in Rome, 1600, because he believed in the Copernican Theory, and the story of Galileo is too well known to need repetition. These illustrations may emphasize the ex-

tent of authority as opposed to reason, and also of our progress in the struggle. But leaving the religious controversy aside, note the effect on education. People who are expected to accept truth on authority may remain ignorant; people who are expected to judge the truth for themselves must be educated. Luther saw this and became a champion of universal education. Seeing, however, the indifference of parents and feeling that every child had a right to be put where it could read the scriptures, he became a champion of compulsory education. He realized that education could become compulsory and universal only through the agency of the government, so he became a champion of state education. He translated the Bible into German, thus helping to fix the German language and induce the study of the native tongue. He went about from province to province trying to arouse the people and rulers to a realization of their duty. Philip Melancthon was a noted helper of Luther in formulating plans and adapting books. Finally the ruler of Saxony, 1528, called on them for a plan of organization for schools in his province. This they drew up dividing the work of the school into three general groups. This was the first attempt, though a loose one, to grade the work of a school. The Saxony school plan antedated Sturm's model mentioned in the first of this article.

Thus we may see that the modern primary school, state control of education, and even compulsory education, were children of the Protestant Reformation. Wherever you find great Protestant reformers like Luther of Germany, Knox of Scotland, and Zwingli of Switzerland, there you find influences for primary, state and compulsory education reaching down to the present time, and teaching with all the force of history that such is the only way to banish ignorance and illiteracy.

With all this we should bear in mind that these early Protestants introduced no new principle into educational thought, did not champion method. Even after a little learning of the catechism, etc., in German, Luther would follow a study of religion by that of Latin, Greek, Hebrew, a little mathematics and logic. Thus he is a humanist. The great revival of scientific method and study of nature is yet to come.

The Jesuits.

Before passing to the modern scientific period, one other movement should be studied. As noted, the Protestants remained Humanists, and never introduced an education based upon their own doctrine of freedom. The field of education was at once occupied more actively by the Catholics under the leadership of one, Ignatius Loyola, who organized the Society of Jesus chartered by the Pope in 1540. This was a religious organization on a military basis, a Salvation Army whose plan of salvation included, above all, education. The Jesuits wished to stem the tide of the Reformation and to educate the world back to the Catholic faith and authority, hence their movement has been styled, "The Counter Reformation." They sought the sons of the influential, and were not interested in primary instruction nor in the working classes. They formulated a graded course of study somewhat after the model of John Sturm. Their order spread rapidly over France and other portions of Europe, and with military exactness the adapted course of study was kept the same in all schools. This developed a system of graded schools and supervision. They also trained their best pupils for teachers, and insisted on having only trained teachers. They wished to make their schools popular, so they tried to make learning interesting. Since Latin and Greek did not appeal to natural interests, artificial means were resorted to, and emulation, prizes, honors, privileges, etc., were devised. Literary and debating societies were also introduced, only pupils of merit being permitted to join. An educational motto of the Jesuits was, "Repetition is the mother of learning," and this was the basis of their method. Because of the thoroughness of drills and the superiority of trained teachers, these schools became popular, and even Protestants often patronized them. They became so powerful politically that, partly through jealousy of the Pope, their suppression was secured in 1754. For nearly 200 years they dominated the education of Christendom.

Permission to revive the order was later given, and a few of their higher schools are now in existence, some in Georgia. A type of education too narrow and barren, and opposed to freedom of thought, it has lost its influence as a factor in human progress.

Other Catholic schools worthy of study were those of the Port Royalists and the Christian Brethren, the latter founded by La Salle.

VII.—The Modern Period.

The Revival of the Scientific Spirit.

The beginning of education of more strictly the modern type comes with the revival of natural science and the scientific method ushered in by Francis Bacon (1561-1626.)

Bacon has often been called the father of modern science. He revived the inductive method which had been almost dead to the European world since Aristotle. He ridiculed the learning of the scholastics and the humanists, and claimed that the chief aim of learning should be to benefit the condition of man The old deductive method was to be replaced by the inductive, or scientific, method which was the true method for the advancement of learning. Bacon was not a school man, but his philosophy gave a new purpose to education, that of making life better through a mastery of nature; a new method, the inductive; and new subject matter, the natural sciences. His small book, The Advancement of Learning, should be read to appreciate Bacon.

John Amos Comenius, (1592-1670), Moravia.

For the man who really introduced the scientific spirit, method and studies into the school room, we must turn to Comenius. He has been called the Bacon of education, the first great reformer of modern education. He was a practical teacher who would combine religion, classic literature and natural science, and "teach all things to all men."

Some of his principles are in substance as follows:

1. Everything after the order of nature.
2. Nature does things at appropriate times.
3. There is nothing in the understanding which was not before in the senses.
4. Language should be learned through conversation and application to things.
5. Things that have to be done should be learned by doing.

His most important books:

1. *Gate of Tongues Unlocked.* This contains several thousand Latin words associated with things, and presents a study of many things, science, morals, manners, industries, religion. It was a book for school study presenting the whole course of study.

2. *Orbis Pictus,* an adapted and illustrated edition of the above book, using pictures for the first time in a school book.

3. *The Great Didactic.* This book presents his purposes of education, principles of teaching, school discipline, and school organization. It thus treats pedagogy more fully and roundly than any other book up to this time.

Although Comenius influenced a small portion of Europe immediately, his reforms were not quickly accepted, and the old humanistic education still dominated most of the world. The Real Schools for the study of science began in Germany (1747), and the Academies in England and America represented the partial introduction of these ideas.

Look up the Academy in Philadelphia founded by Benjamin Franklin; also early academies in Georgia.

John Locke, (1623-1734), England.

John Locke was a learned physician and philosopher. He wrote "Essay on the Human Understanding," and "Some Thoughts Concerning Education." He favored the practical in education, encouraged a study of science, and especially stressed physical education. The adage, "A sound mind in a sound body," we have from him. He did not favor public schools, but recommended tutors.

Children should be allowed to be gamesome, and should be taught in seasons of aptitude and inclination. Thus he would recognize the peculiar bent of each. In these and other thoughts he imprest Rousseau. Locke placed great store on good manners and foreign travel, and his educational ideal was a cultivated English gentleman. He developed the notion that the content of studies was not of as much importance as the process of learning. This gave a psychological basis for an educational doctrine which has been more persistent than almost any other, the doctrine of study merely for the sake of disciplining the mind.

Disciplinary Education in the Schools.

The coming of the scientific spirit and the notion of the practical in education had a tendency to overthrow the humanistic ideal of education, but a new basis for the old learning was found in the doctrine of mental discipline. This doctrine held that the mind was made up of separate faculties, judgment, reason, memory, etc., and that these could be disciplined to general power, then this power could be used in any direction later in life. The drier and more difficult the subject, the greater the discipline. Interest would be opposed to discipline. Under this theory, Latin and Greek retained a hold on life, and more of mathematics came in. The notion extended down to the elementary schools and drill subjects were the favorites. Reading was not taught for the content of literature, spelling and the multiplication table were excellent for drill, and arithmetic was to discipline reason. This is the education of the Three R's. The "Old Field School" based its work on these and as early as possible introduced Algebra and Latin. Since the object was to discipline the mind, they bowed down and worshiped these subjects.

The universities and colleges of England and America based their work on this theory, and it was passed on down to the high schools and elementary schools, dominating them from the seventeenth century to the latter part of the nineteenth century. Modern science discredits the doctrine though it yet prevails in some colleges and belated public schools. A good book to read in connection with this topic is, O'Shea's Education as Adjustment.

We now come to a long list of reformers who have contributed many things to revolutionize the old order and to give us our twentieth century doctrines. The world must pass through the age of revolutions, the freedom of thought revolution, the English and French Revolutions, and our own Revolution of 1776. The great revolutionist in education as well as in democracy was Rousseau.

Eighteenth Century Education.

Rousseau and Revolution

(Jean Jaques Rousseau, 1712-1778). Rousseau was a revolutionist, and the spirit of the century was revolutionary. This was the age of revolutions, the French Revolution, the American Revolution, and others. Rousseau was largely responsible for the French Revolution, and Thomas Jefferson echoes him in parts of our Declaration of Independence. His notion of government was that it is a social contract entered into by individuals, therefore "of the people, for the people, by the people," as Lincoln put it. This was democratic, and contrary to the notion of the divine right of kings.

In education he was just as revolutionary. He said, if yo want to know how to proceed in education, find out the customary practice, then go in the opposite direction. He gives us his notions in a book, Emile, or Concerning Education. Emile is an imaginary boy who is educated in an ideal way. The book is a very emotional one, full of inconsistencies, yet an epoch maker. Probably his most valuable contribution has been that children must be understood and treated as children, and that education must follow the order of nature in the development of the child. (Child Study).

He discounted the use of books, and would have children learn from objects and laws of nature. Return to nature was a great phrase with him. Some quotations from Emile:

"Plants are formed by cultivation, men by education."

"Nature would have children be children before they are men."

"It is a barbarous education that sacrifices the present to an uncertain future, that leads the child with chains of every sort and begins by making him miserable in order to prepare for him, long in advance, some pretended happiness which it is probable he will never enjoy."

"We do not know childhood."

"Punishment must never be inflicted on children as a punishment; it ought always come to them as the natural consequence of their bad acts."

The idea in the last quotation was later taken up and worked out by Herbert Spencer, and the notion of natural punishments

has become popular. Other notions of his influenced Pestalozzi, Froebel, and others down to us.

Rousseau was a genius of the type approaching insanity, probably the most singular original that ever lived. His life is a remarkable study.

Nineteenth Century Education.

In this century we find the reforms assuming more definite shape. We find a brilliant galaxy of leaders to study ,and several lines of development to trace. First comes a Psychological Tendency by means of which education is put upon a psychological basis and we begin to have genuine science of education. Three great leaders come in here, Pestalozzzi, Herbart and Froebel. Horace Mann of Massachusetts brings the Pestalozzian doctrines to the United States.

Next comes a stress upon the natural sciences as the most fruitful subjects of study, and in this connection Herbert Spencer is a type study.

In all of these doctrines, education is given a bias toward a sociological aim, that is, for the good of society. Frederick the Great, Thomas Jefferson, and others have stressed education for citizenship, or the good of the state. A modern tendency is to stress social efficiency and a study of the social sciences, history, sociology, ethics, philanthropy, religion, etc., and to formulate an eclectic theory which will select the best of all and harmonize these.

Pestalozzi, (1746-1827).

Pestalozzi was a Swiss, born in Geneva. He caught the spirit of Rousseau and became the great practical reformer by way of introducing the new ideas into school work.

Through business failure he was left with a large farm on his hands. He conceived a notion of an industrial school especially for the children of the poor. These were to work on the farm and at trades part of the day and to study as in school part of the day, the industrial features considered as a genuine educational factor. This venture failed, and he was left in dire poverty for about eighteen years, during which, however, he wrote articles for the newspapers and also several books, the

most noted of these being Leonard and Gertrude, and How Gertrude Teaches Her Children.

A war had devastated the country about Stanz leaving many children without homes and parents. The government asked Pestalozzi to take charge of these orphans and he accepted. They were given a large convent building for their home and school, and Pestalozzi had about 80 of these with only a servant to help him. Without books he worked out a system of oral instruction which gave definite shape to many of his ideas. How would you teach geography without a book? How arithmetic and grammar and history and science? These questions Pestalozzi had to answer, and he was led to place stress upon new things in education.

In less than a year's time the soldiers of the enemy returned and drove him out of the building, but in that short time he had transformed the characters of these waifs and strays through his genuine love for humanity.

His last school was at Yverdun, and was of the nature of a model primary school to exemplify his methods for the benefit of the world. It thus became a kind of normal school, and was soon world-famous.

Though Pestalozzi had great ideas, he could not well systematize his doctrines, and it is difficult to quote from him directly. He influenced school room methods in the direction of object lessons, history stories, home geography, and much else that we consider modern. All this transformed text books to adapt. Sense perception was appealed to to form clear ideas. School discipline was made milder, love the transforming power. Vocational work was made instructive. The world has been led to a care of unfortunate classes through industrial and reform schools, schools for deaf and blind, sanatoriums for the insane, and other philanthropic institutions.

Horace Mann and David P. Page.

Horace Mann, Secretary of the State Board of Education of Massachusetts, visited Europe and returned to preach Pestalozzianism in this country. His reports are famous documents. He stimulated the development of public schools in New England, and they became the best in the United States.

He urged consolidation of rural schools, normal schools, libraries, and Pestalozzian reforms in method and curriculum.

Our schools had been of the old "Three R's" kind, but the new education began its revolutions, yet the old kind has not entirely disappeared. Normal Schools started in the United States under the influence of this movement. David P. Page became a noted Normal School principal, and we may get the most impressive idea of the new Pestalozzianism from Page's Theory and Practice of Teaching, probably the greatest educational classic of this country.

Herbart, (1776-1841).

John Frederick Herbart was Professor of Philosophy, University of Konigsburg, Germany, at the time the most noted chair of philosophy in the world. He made education a subject for philosophical study and established a practice school in connection with a department of pedagogy, the first of its kind.

Pestalozzi could not systematize his doctrine, but Herbart did and went further. He has done more than almost any other man to put education upon a scientific basis. His educational doctrine was developed out of his psychology. He founded a new psychology based upon experiment and introspection.

Some of his doctrines are as follows:

The mind is furnished with primary presentations of sense perception, and it develops according to what is thus presented and the resulting combinations of the same. The new sense presentations are acted upon by former experiences, and this process is known as apperception. The mind assimilates what it apperceives; that is, the new experiences which are connected up with older experiences are assimilated. If this apperception takes place, interest is aroused. Interest, then, is many-sided, according to relations set up.

Applied to education, we get the following logical conclusions:

The teacher must (1) select the best material for the presentations, (2) arrange this material in a regular, related order, and (3) present this material so as to arouse many-sided interest.

These place stress upon a study of the best material to make up the course of study and the best method of instruction.

In the selection of the material adapted to the child of different ages, the doctrine that the development of the child parallels the development of the race is brought in. This is the Culture Epoch Theory. According to this, the child develops through a nomadic stage, fishing and hunting stage, an agricultural stage, etc., and his interests accordingly call for material selected from these racial epochs. Several outlines have been suggested of material selected to follow the racial development. Miss Harriett Scott in Organic Education gives this one:

In the first half of the first year, the instruction should center around Hiawatha. The child at this age is at the dawning of his mental life, and his strong interests are in nature and myth.

In the second half of the first year, the center of instruction is Kablu, the little Aryan boy, who represents the agricultural period of civilization.

Then, in order, Darius, the Persian boy, Cleon the Greek boy, Horatius, the Roman boy. After these Gilbert, Columbus, Raleigh, and the Puritans pass in review, reaching the period of national development.

The law of recapitulation is suggestive but good only in part. A child's interests are not wholly instinctive developments. He is interested in present-day things also. When the colleges play football, every small boy wants a uniform and a football. When poultry shows are prevalent, the boy wants chickens. Hence recapitulation, or Culture Epoch Theory, is insufficient to determine the whole curriculum.

An interesting book here is Dopp's Place of Industries in Modern Education.

The proper relating of the new to the old developed the idea of *correlation*. No subject should be taught in an isolated way, but everything correlated.

The proper method of instruction has given rise to the five formal steps of the recitation developed by the disciples of Herbart. These are:

1. Preparation, a calling up of the previous knowledge or experiences needed to apperceive the new to be taught. Other-

wise, there may be no relating, no interest, no learning. This often must be done in assigning the next lesson.

2. Presentation, in such a way that the new is connected with the old. Sufficient number of cases should be presented.

3. Comparison, that the general principle may be seen throughout all cases presented.

4. Generalization, the drawing off of the definition, rule or thing taught by proper statement.

5. Application, to test the preceding steps, and to complete the circle of learning.

This has tended to make instruction scientific. The aim of instruction is to arouse interest to stimulate the will to right conduct. This makes moral character the chief aim of education. Interest, Apperception, Correlation, Culture Epochs, Steps of the Recitation, Moral Character, are Herbartian topics for study.

McMurray's General Method and Miss Parrish's The Lesson are recommended to give a full and clear idea of modern doctrine derived from Herbart.

Froebel, (1789-1852),

Frederick Froebel is generally thought of merely as the man who started the kindergarten. Though he made application of his principles to this one stage of education, these principles are fundamental to all stages.

Instead of stressing instruction and course of study chiefly as did Herbart, Froebel is more in line with Rousseau in stressing the child as the center of all. Education must begin with the spontaneous activities of the child; material must be selected from life as it now is; and learning should express itself in some social activity. The school should be made an epitome of society, and play is the earliest spontaneous activity. Froebel's doctrine may be condensed as follows:

1. The basis of education is the law of unity, or interconnectedness of all things. (Explain the unity of God, man and nature; of animal, vegetable, and mineral; of home, school, and society. Find other unities).

2. The process of education is development. God's process in the world about us is one of gradual development. Edu-

cation is the conscious evolution of the race. This is an application of modern scientific evolution to education.

3. The method of the process is self activity. Self activity is determined from within and not forced from without. Instruction must be based upon the interests and natural activities of the child. Play is a form of self activity that should be organized to be educative. Hand work is another form of self activity, and constructive work aids in the development of self activity. Nature study is another such aid. In all grades of education, the process of self realization is the important notion. Everything should call forth proper activity.

The school being an epitome of society it should be a kind of home-democracy. The child should be living its natural life, and not merely preparing for a far away life. Education then becomes not merely preparation for life, but it is life. The kindergarten illustrates this for the early years, and the kindergarten should become a necessary part of every system of elementary schools.

Froebel's chief book, The Education of Man, is in part not very readable. A more interesting book for beginners is Froebel and Education Through Self Activity, by Bowen, or Froebelian Laws for all Teachers, by Hughes.

Our most progressive educational doctrine today combines theories of Herbart and of Froebel, with those of Froebel becoming more and more significant.

Herbert Spencer, (1820-1903.)

Next to John Locke, Spencer is the great influence shaping educational doctrine in England. Spencer's book, "On Education, Intellectual, Moral, Physical," is a great educational classic. In this the first chapter discusses What Studies are of Most Worth. He lays down the famous definition, "Education is preparation for complete living," and this is his measure of any study. Those subjects which bear most on complete living are of most worth, and Spencer gives the natural and social sciences the first place. He thinks that these have the most practical value and give the best discipline of mind. He stressed physical and moral education. In his method, he advocated Pestalozzianism, and he worked out and defended the doctrine of natural punishments. His book should be read for itself,

though read critically, for Spencer is at times narrow in his prejudices, but he is interesting and instructive. Good editions may be found in popular library publications at 25 cents a copy.

The Twentieth Century.

Eclectic Education.

We are just entering the Twentieth Century with all its possibilities before us. History has probably made clear that from primitive man to the present, education has been closely connected with social conditions, and as periods of social change came, education had to readjust to changed conditions. This explains why we have had so many changing conceptions of education, and it points to the truth that education cannot rest on any past solution but must keep progressive as long as civilization changes. Periods of rapid development are periods of great educational strain, for national progress generally outruns educational development, and yet it cannot run far ahead without disaster. We are facing a period of great development, industrial, social, political, and especially will this be felt in the South. Educational development is all that can keep us from disaster. The history of education should make clear that this development must relate itself to many phases of education, some as follows:

1. The aim of education. Modern doctrine is attempting to combine and to reconcile many conceptions of the aim. Mental discipline, the development of the powers of the individual, the elimination of crime, poverty, illiteracy, and lack of equal opportunity, adaptation to environment, social efficiency, good citizenship, complete living, and religiously moral character are all contributing to a broader aim to meet democracy's needs.

2. Knowledge of the being to be educated. Rousseau pointed this out. Child study has made some advance, but it is yet a matter of too little concern with a vast majority of teachers. Genetic psychology, biology, sociology, experimental pedagogy, and other sources are enriching this field. The child must become the center of all scientific theory and practice of education.

3. The content of education. We must look for many

changes in our subjects of study; new subjects will be added, old ones recast, and all better correlated.

We hear much about industrial, practical, vocational education, and we must in part meet these claims. The well accepted common school subjects are of little value except as related to life's needs. Education must help wage earners as well as upper classes. But specialization is increasing. How can education adapt to so many specialties? Then life is more than bread and money. Culture and moral character must still be kept to the front. We must prepare for the leisure hours of life as well as for life's industries.

4. A profession of teaching. The consensus of opinion well over the world now is that no one should be permitted to teach without special preparation for so complex an undertaking. Teachers must have professional training with a background of culture and scholarship. Teachers now should have a knowledge of the world's learning, of the nature of the child, of social problems and conditions to be met, of scientific methods of instruction based upon the principles of Herbart, Froebel, and such, and of the history and philosophy of education. Teachers who enter by the examination door can never get this broad view. Merely apprentice schools, as well as examinations, will turn out teachers of narrow vision and almost no power of growth. Education must be made a subject of profound study. Normal schools are transforming to adjust to the broader view, and colleges and universities are following in the footsteps of Herbart in making a study of education prominent in their service of democracy. Teaching is becoming a liberal profession alongside medicine and law.

5. School organization, supervision, and administration.

New types of schools will be created, educational plants enlarged, shops, gardens, farms, and playgrounds provided, schools consolidated until the one-room school is rare, special supervisiors provided for transition to new lines of work, the administration of education dignified as the greatest work the state has to do, assistance by the national government given, a more rational plan of financing education accepted, and equal opportunity for all made possible. This field must be prepared for professionally, as must the teacher's field. That is, we must have a profession of education.

Books to be Studied.

General Manuals: Seeley's History of Education, American Book Co., for a general historical outline, this to be supplemented by Hoyt's Studies in the History of Modern Education, Silver, Burdett & Co., for a fuller study of the modern field which is of greatest importance.

High school teachers should add to the above, Brown's The Making of Our Middle Schools. Macmillan & Co.

Special Books: McMurry's General Method, (Macmillan & Co.) and Miss Parrish's The Lesson,

Dewey's The School and Society and Eliot's Education for Efficiency, give some notions of Twentieth Century doctrines.

THE TEACHING OF ARITHMETIC.

By C. S. Parrish, State Supervisor.

Arithmetic, like other formal subjects, is a means to an end, not an end in itself. The child needs to solve certain problems which arise in his play or in his work, and, for the solution, he needs certain arithmetical processes. A little later, problems arise whose solution can be more readily accomplished by algebraic processes and, as the need appears, he should be led to use the process best adapted to meet the need. From the beginning of his intelligent life, he is in daily contact with terms and objects which he needs to name and distinguish and for this purpose he needs a very elementary phase of geometry. This is ordinarily called "Form Work," and is very essential to a good understanding of some of the arithmetical principles and processes which he needs to use.

To attempt to present number of forms to the child in the usual sequential order is not only useless, but harmful, inasmuch as such a procedure is entirely at variance with the natural working of his mind. Both number and form should be given in an order, at a time, and to an extent determined by the practical need of the child. The formal teaching will then be closely interwoven not only with the experience previously gained, but with other work with which he is now occupied, and each step will be recognized as necessary before it is taken. Approached in this way, the concrete application of the knowledge gained will furnish a manifest reason for the study, and the children will not think of it as a task imposed arbitrarily by the teacher.

The nature of the human mind makes it necessary that any process which requires readiness and accuracy should be often repeated, hence drill is necessary in teaching arithmetic, but the drill should be the incidental appendage rather than the care of the work. When the need for quickness is apparent to the child himself, he will not object to a drill which helps him to the desired quickness, even though it may be disagreeable in itself. Drills of this kind should be given daily and sometimes several times a day, but it should never last more than five minutes at a time. Ordinarily, it should be confined to three. It should be continued until the child is practically automatic in

the use of addition, subtraction, multiplication and division in the usual connections of these processes with simple integral numbers, with compound numbers and with fractions. But, however imperative this daily drill is conceded to be, it must not be forgotten that the main part of the arithmetic work should consist in the solution of problems whose results the child needs to know in order to use in his other work whether at home or at school. These problems have their highest degree of effectiveness when they concern work the child is himself doing. They may be somewhat effective when they concern work which is being done under his observation by others. They lose all effectiveness when they involve conditions foreign to his experience. The habit of pausing in any work which necessitates the use of results of arithmetical calculations to make these calculations is a very valuable one. It will give the children a great deal of practice in using processes already sought, and, at the same time, give him insight into the constant uses of arithmetic.

Since the problems given should appeal to the experience of the children to whom they are given, no one set of problems will be exactly adapted to more than one school. The teacher should be in close contact with local industries and conditions, and should continually furnish problems relating to these. When suitable problems can be found in a text-book, there is not only no objection to using them, but it is very desirable to do so. It will save the teacher's time and will help the child to read books intelligently. Each child above the fourth grade should own at least one good text-book in arithmetic. The school should own several sets of books adapted to the use of the children and the teacher should have as many different books as he can. He should use all these freely in selecting work for the children, but he should not make them his main dependence. He should have sufficient mastery of his subject to make better problems for his own pupils than any person who is a stranger to them could possibly make and he should make these the chief part of his work. Do not *misuse* any text-book by having the children "work the examples" in the order they come or whether they appeal to the child's experience or not.

The early introduction of certain ideas once reserved for advanced work and the gradual development of these ideas mark the work of the best teacher of arithmetic. Fractions, both com-

mon and decimal, are freely used from the first year whenever practical need for them arise, and ratios, percentages, involution and evolution are begun in the second and third grades and gradually developed.

It is so difficult to show exactly what is meant in the above remarks without practical illustrations that a detailed plan for teaching of the kind advised is given below. It cannot be too much emphasized that the details given are not of universal application, but are given as types which should be varied as conditions vary.

NUMBER PLAN FOR FIRST YEAR.

FIRST THREE MONTHS.

In addition to the formal work, let the children make a playhouse out of an empty orange box, dividing it by partitions into four rooms. In planning the rooms they will need to measure the box in feet and inches, finding one-half of the length and width. In making the windows they will need to use halves and fourths and to add and subtract inches. In making curtains, they will add inches and half inches. They will need to count by 3s and 4s to find the quantity of material needed for all the curtains in the house. They will add, subtract and multiply in finding how many sheets of paper are needed for the wallpaper of one room and for the whole house. Subtraction will be needed in finding how much each sheet of paper must be cut down to fit the wall. Cubes will be used in making boxes to hold seed. Some cylindrical boxes should be made by pasting the edges of an oblong together and cutting a circle for the bottom. The square will be seen in making rectangular boxes and on the faces of cubes used in building. The playhouses and boxes will have straight lines and curved lines. Division will be necessary in finding how many rows of flowers or vegetables a certain distance apart can be made on a garden bed of a certain width. The number of seed sown in boxes, compared with the number of germinations, will make a basis for subtraction. Records of the time of planting seeds and the time of their coming up will furnish material for estimating time in days, weeks and months. Daily reading of the thermometer will necessitate reading and writing numbers and counting by 2's and 10's. Drying fruit will make a basis for weighing in

pounds and ounces. In studying evaporation in connection with drying fruit in the sun, subtraction of pounds and ounces will be needed in finding how much water is lost by the fruit daily. Halves and fourths can be taught in connection with cutting fruit to dry on stem. In making apple sauce it will be interesting to find how many apples will be needed by the whole class if each child uses one-half apple; how much sugar if each child uses two tablespoonfuls; how much water if each child uses one-half cup. The number of pints in a quart and the number of quarts in a gallon will need to be taught in the same connection. The cost of materials for cooking and for furnishing the playhouse will necessitate dollars and cents. Estimates of weights, distances and contents will be needed in a variety of work and these estimates should be verified or corrected by actual measurement. The triangle may be taught in connection with the gable of roofs, the sphere from the rubber balls the children play with and from fruits which are nearly spherical, the hemisphere from halves of these fruits and the circle from the flat faces of half oranges and other nearly spherical fruits.

SECOND THREE MONTHS.

There should be a daily record of the date, the temperature, and the direction of the wind. Nuts gathered by the children should be measured and the dry quarts, the peck and the number of quarts in a peck found. One-eighth can be taught in connection with the number of quarts in a peck. The children may be led to measure popcorn before and after popping, and find how much the corn has increased in bulk by popping. This has its greatest value when they are popping large quantities to string for the Christmas tree. They can use halves, thirds, fourths and eighths in connection with cutting apples, measuring cloth, estimating heights, lengths and breadths in the playhouse, dividing receipts for cooking, measuring garden plots for the purpose of laying off rows, etc. They may count by 2's, 3's and 4's in finding lengths of cloth needed for class, of wood needed for furniture, of seed for rows, of nails for furniture. Additions, subtractions, multiplications and divisions will arise daily as the children work, talk and play and now and then there should be a little quick drill to help them calculate more rapidly. If the teacher will take them into her confidence and tell them that

the drill is to help them in something they are not doing very well, they will submit cheerfully to the drill. As in the first three months, there should be daily estimation of distances, weights and contents and correction or verification of these by actual measurement. Vertical, horizontal and oblique lines appear in the school room and the playhouse and the children should be led to recognize them. Square corner, blunt corner and sharp corner may be sought in the same way.

LAST THREE MONTHS.

The children may make a clock face for the playhouse or dollhouse and learn the number of minutes in an hour, a half-hour and a quarter-hour. They may review the circle and learn the semi-circle in the same connection. They can review halves, thirds and fourths and learn sixths and twelfths while they are dividing the face of the clock, and can count by fives in the same connection. They can learn to tell the time of day from the school clock and, in the same connection, to read Roman numerals to XII. They will need to write the same characters on their clock faces. They can measure equal quantities of dried sand, clay, and loam for a garden experiment; measure water for the same experiment; estimate the rapidity with which water rises in different soils; measure and compare the height and size of plants grown in different soils; estimate time in connection with experiments in germination of seed under different conditions; compare temperatures from day to day; finding differences from time to time; and add, subtract, multiply and divide on all occasions. There should be quick drills in addition, subtraction, multiplication and division every day. The cylinder may be reviewed in connection with broom handles, the thermometer tube, tin cups, etc. The cone may be taught in connection with the pine tree and the Indian tepee.

The details given above are not meant to be exhaustive, but suggestive. They are purposely left without any logical arrangement. The daily needs of the child exhibit little or no logic.

No book should be used in the number teaching of the first grade, unless, indeed, it be a picture book, and no attempt should be made to have the children do abstract work. The children cannot read and do not have ideas which are abstract in the sense in which the word is ordinarily used. They learn

to read and make figures in connection with the work they are doing and do not need separate lessons for them.

WORK OF SECOND YEAR.

Besides the work required in the text, let the children visit a neighboring grocery store and ask questions about buying and selling prices. Ample addition, subtractions, multiplications and divisions can be based on the information obtained. Let the children keep a small grocery store and sell fruits, nuts, cakes, candy, crackers, etc., to other children. Let them make hot chocolate for the same purpose. Lead them to settle upon a fair selling price for articles bought at a certain price. Let them calculate the cost of the materials for the chocolate and a fair price per cup, allowing so much profit. Let them weigh and measure in this connection and learn to use pounds, ounces, pints, quarts, yards, gallons, pecks, bushels, etc. Half and quarter pounds, half bushels, half and quarter yards, etc., may be learned. The children should recognize pieces of money and know how to make change. They should do very simple bookkeeping in connection with the store and add, subtract, multiply and divide as they work. They should be made familiar with the weights and measures used in cooking, such as cup, teaspoon, tablespoon, ounces, etc. They should use also the fractional parts of numbers necessary in changing receipts and drawing a garden bed to scale.

When the children are ready for such additions as $23 + 37 = 60$ and $38 + 29 = 67$. They should begin the "number building" which will give such important help in the understanding of the processes involved. In this, the teacher has *each child* hold up nine sticks or other convenient objects and then put one more with them. He now has ten. The teacher leads him to bind the ten sticks into one bundle and call that bundle *one ten.* The pupil is led to see the *oneness* of the ten, but, also, that it is made up of ten units. *Each child makes the bundle and ties it himself.* The number is then written on the board by the teacher and read by the children as "one ten and no units." The children are led to hold up, write and read "one ten and one unit," one ten and two units," etc., both in words and in figures. When they have built "one ten and nine units," another unit is added to the nine units. another bundle is tied up and the children have

now "two tens and no units." Then, proceeding as before, they hold up, write and read two tens and one unit, two tens and two units, etc. This work should occupy only a few minutes each day, but should be continued from day to day until each child can build, write and read nine tens and nine units. When one more is added to the nine units, another ten may be made and the children will then have *ten tens*. These, bound together in one bundle will be *one hundred*. The children are led to see the *unity* of the hundred but, also, that it is made up of ten tens or of a hundred units. After this, the building takes the term, "one hundred, no tens and no units," "one hundred, no tens and one unit," "one hundred, no tens and two units," etc.

In gardening, the children may estimate the number of seed in a bed and then correct or verify this by counting. They can count by twos, threes, fours, fives, etc., using large seed gathered. They may find the number of seed in a whole pod and then calculate the number in a half pod or a quarter pod. They can measure the width of the garden bed and find the number of rows possible to it. They can find the cost of producing their vegetables by recording the price of the seed, and of the fertilizer and charging for each hour of labor they give. Then they can sell the vegetables and find their net profits. They may be given simple work in bookbinding either as manual training or as seatwork and problems can be based on this. They can measure the size of the leaves and calculate the size of the cover by adding a half or a quarter inch to the length and width of the leaves. They can calculate the quantity of cardboard needed for one bookcover of certain dimensions or the number of bookcovers of given dimensions which can be cut from one sheet of cardboard whose dimensions are also given. They can calculate the number of sheets needed by the class and the cost of this at five cents a sheet. In sewing, they can calculate the quantity of material needed for one cook apron and, from this, the quantity needed for the entire grade. Knowing the cost of this per yard, they can find the cost of all the cloth needed. In connection with a study of farm animals, the following work may be done: Find the cost of feeding and caring for one sheep through the year. Find the number of pounds of wool obtained from one sheep and the selling price of the wool. Calculate the cost of feeding two lambs and the selling

price of the lambs. Find the total profit from one sheep. From twenty sheep at the same time.

In the second year, the children should be taught to analyze additions such as 23 + 29. Analysis: Nine units and three units are twelve units. In twelve units there are one ten and two units. We write the two units in the units column and add the one ten with the tens. Two tens and two tens and one ten are five tens. We write the five tens in the tens column.

A little later, they should begin to analyze such subtractions as 43 — 19 = 24. Analysis: I cannot take nine units out of three units, but I have four tens and can take one of these. This will leave three tens. In one ten there are ten units. Ten units and three units are thirteen units. Nine units out of thirteen units will leave four units. I write the four units in the units column. One ten out of three tens leaves two tens.

In this grade, multiplications through the table of sixes should be taught by the use of objects. Much of this should be incidental, but the children may be given blocks or sticks and allowed to build and write the tables as seatwork. There should be daily drills in adding long columns and in quick combinations involving addition, subtraction, multiplication and division.

THIRD YEAR.

In this year, the children should have constant practice in addition, subtraction, multiplication and division, but to insure their interest, these processes should be mainly means of solving problems which arise in their work either at home or at school. The following suggestions may be found helpful, but should always be varied to suit the locality. Let the children make daily records of the temperature and compare these, finding differences. Let them find the average temperature for the week, the month and the season. Let them record the number of rainy days in the week and find the ratio of the rainy to the clear days. Let them measure the dimensions of the school room in yards, feet and in inches and calculate the area in square yards, feet and inches. Let them measure the same room in metric units and calculate the same area in square meters. Let them learn one-tenth, one-hundredth and one-thousandth from the meter stick. Let them lay off a square rod of land in a neighboring cotton field and with the consent of the owner, pick this cotton. Let them weigh

it, record its weight and, if possible, do the work of ginning themselves. They can, at least, see it ginned. Let them weigh the lint cotton and the seed and from the data thus obtained, calculate the cotton produced upon an acre at the same rate. Let them find the cost of producing an acre of cotton, counting the rent of the land, the fertilizer and the labor of both man and horse. Let them find the profits of the farmer. If the yield of cotton has not been good, the teacher should find the data from an acre which has had better cultivation and the children should make the same calculations as before. Let them lay off a square rod of corn and make similar calculations. Call especial attention to the fact that the profit is much greater in the case of good cultivation even though the cost of production was much larger. Give children studies of sheep raising, dairying, hog raising, poultry raising, bee keeping, etc., and have them find profits. Let them measure corn roots and draw them to scale. Let them compare the length of these roots with the length of wheat and cotton roots.

In this year, the children should analyze such examples as $732 \div 3 = 244$. Analysis: In 7, there are two threes. Two threes are six. Six out of seven leaves one. This is one hundred. In one hundred, there are ten tens. Ten tens and three tens are thirteen tens. In thirteen, there are four threes. Four threes are twelve. Twelve out of thirteen leaves one. This is one ten. In one ten, there are ten units. Ten units and two units are twelve units. In twelve there are four threes. Four threes are twelve. Twelve out of twelve leaves nothing. Rapid combinations in adding, subtracting, multiplying and dividing simple integral numbers, compound numbers and fractions should be practiced daily. Adding long columns rapidly should have distinct attention. Simple bookkeeping in connection with all industrial work done should be carefully done. The multiplication tables should be built now through the table of nines and learned. Form should not be neglected. The children should learn solid, surface and line in connection with the room, the desks, the blackboard, etc. They should learn planed surface from the windowpanes as the board and curved surface from apples, the doorknob, the chair leg, etc. They can learn right, acute and obtuse angles, right angled, acute angled and obtuse angled. Triangles, parallel and perpendicular lines and the parallelagram and its area

in connection with gardening, drawing, woodwork, etc. Parallelopipeds and various other prisms can be taught in connection with making candy boxes for Christmas. The equilateral, isosceles and scalene triangles should be taught in connection with the top and bottom of candy boxes. The arc, segment and sector of a circle can be taught from the clock face. The pentagon, hexagon, etc., are seen on objects in the room or in the neighborhood, and pyramids are found in roofs of houses. The area of the rectangle can be taught by drawing it on the board, dividing it into squares and multiplying the number of squares in one room by the number of rooms.

FOURTH YEAR.

The work of this year should be very similar to that of the third year, but increased in difficulty and complexity. Long division should be mastered and the children should become automatic in the use of the multiplication tables. They should become ready in adding, subtracting, multiplying or dividing simple integral numbers, compound numbers and fractions. They should know thoroughly the tables of denominate numbers which are in common use. They should have, so far, no rules or formal definitions, but should analyze processes and become ready in doing it. It is not necessary that they should have rules in order to work with compound numbers and fractions.

The problem $2\frac{1}{4} + 3\frac{3}{4} + 5\frac{1}{4} = 11\frac{1}{4}$, is as simple as $21 + 33 + 58 = 112$, and the analysis is very similar. One-fourth, three-fourths and one-fourth are five-fourths. In five-fourths there are one unit and one-fourth. I write the one-fourth in the fourths column and add the one unit with the units. The children have been accustomed to changing halves to fourths and even though they have $2\frac{1}{4} + 5\frac{1}{2} = 7\frac{3}{4}$, they can easily change the one-half to two-fourths without any formal rule. The same thing is true in subtraction. Suppose they have $5\frac{1}{2} - 3\frac{3}{4} = 1\frac{3}{4}$. The analysis is simple: $\frac{1}{2} = 2/4$. I cannot take three-fourths out of two-fourths. I take one unit out of five units and use this. In one unit there are four-fourths. Four-fourths and two-fourths are six-fourths. Three-fourths out of six-fourths leaves three-fourths. I write three-fourths in the column of halves. Three units out of four units leaves one unit. Fourth grade

children will not hesitate at such multiplications as $4\frac{1}{2} \times 2\frac{1}{4}$, and will analyze intelligently without rule.

$$\begin{array}{r} 4\frac{1}{2} \\ 2\frac{1}{4} \\ \hline 1\frac{1}{8} \\ 1 \\ 8 \\ \hline 10\frac{1}{8} \end{array}$$

$\frac{1}{4}$ of $\frac{1}{2} = \frac{1}{8}$. I write this in the fractions column.
$2 \times \frac{1}{2} =$ 1 unit. I write this in the units column.
$\frac{1}{4}$ of $4 =$ 1 unit. I write this in the units column.
$2 \times 4 =$ 8 units. I write this in the units column.
Adding, I have $10\frac{1}{8}$.

In this year, as in all others, the work should be based on actual transactions and should appeal to the experience of the children. Only a few suggestions can be made. Pigeon raising, cattle raising, the growth of population in village, town or county, the business of an oil mill, the cultivation of sugar-cane or sorghum, and syrup making, the costs and profits in canning, the business of a country or village store, the transportation business of a railroad, the business of supplying gas to a town, the mining, transportation and selling of coal, the generation and supply of electricity, the expenses of a town for paving, lighting, water supply, government, schools, etc., the expenses of a county for roads, schools and government, the work of road making and bridge building, the business of lumbering, the turpentine business and many other forms of work which will readily suggest themselves may make the concrete basis of the work in arithmetic.

FIFTH YEAR.

In this year, the work should be more formal. There should be a review of the processes previously taught and a few simple definitions, statements and rules should now be developed. It cannot be too much emphasized that these definitions, statements and rules should not be memorized out of a book. The children should have a good text-book and should make good use of it, but if the wording of the book is used for definitions and rules, the teacher should lead the children to make the definitions by

skilful questioning. Ordinarily it is better to give them some freedom in the shaping of the rule, and when it is made, they can write it in a note book for future reference. The memorizing of long rules from the book without any clear understanding of its meaning cannot be too much condemned. In the fifth year, common and decimal fractions should be taught formally and reasons for each step developed. It should be remembered that up to this time the children have been using fractions both common and decimal when they needed them, but, so far, they have had no formal principles or rules. A few simple ones should be given now. The children should first have a great wealth of objective illustrations and then taught the rational explanation. They can *see* why multiplying or dividing both terms of a fraction by the same number does not change the value of a fraction, by dividing a line into parts and marking the groups of parts. They should *reason* that multiplying the denominator by two makes each *piece* one-half as large, but multiplying the numerator by two shows twice as many pieces to be taken. In learning any principle, it is good to lead them as far as possible over the steps of the man who formulated the principle. In all the work they should be led to see that addition, subtraction, multiplication and division are the same in principle and in process whatever the application may be. They should be led to add and subtract fractions *exactly* as they add and subtract integral numbers and the only rule given should be "add and subtract as in integral numbers." If sensible statements have been given the integral numbers, the children can be led, step by step, to see the identity of the process in all addition and subtraction. This is a little more difficult to show in multiplication and division, but careful analysis will serve the purpose, but rules may be given for the sake of convenience. Decimals should be shown to be fractions of the same nature as common fractions and the difference of notation a mere convention for the sake of economizing work. The *reasons* for all the processes in decimals should be carefully developed and the identity of these processes with those in integral numbers and in common fractions should be shown. Simple percentage should be taught in connection with decimals and treated merely as an application of decimals. Ratios should receive attention and their identity with common fractions, decimals and percentages shown. The children in this

year should learn the meaning of squaring and cubing numbers and should form and memorize the squares and cubes of numbers through 12. The *learning* of the square and cube roots of numbers should be taught and the children should learn these roots through 12, simply as a reversal of the process of squaring and cubing. The metric system should be taught as an application of decimals. In the fifth, as in all other years, the main work should have a concrete and practical basis and, as far as possible, should be connected with other work the children are doing. A few suggestions may be made. Give problems based on temperature averages, on the changing length of day and night, on the rate of the movement of the earth in its orbit, on the increase and decrease of populations, on cooking, farming, lumbering, fishing, house-building, manufacturing, etc. Teach the children how an angle is generated and what we mean by a degree. Teach the number of degrees in a circumference and from this develop the number of degrees in the sum of the angles on both sides of a straight line and on one side of a straight line. Let them hold the angles of a paper triangle about a point on its base and *see* that the sum of the angles of a triangle is 180 degrees. Base problems on this. Let the children make an elliptograph by tying the two ends of a string around the two ends of a foot rule and teach them to generate an ellipse. Teach them foci from the places where the string is tied and local distance from the distance between the tying places. Make a careful study of fertilizers, their sources, ingredients, methods of mixing, cost of transportation, etc., and base problems on this. Teach volumes of solids by building with cubic inches. Teach areas of parallelograms by paper cutting, transforming the rectangle to the parallelogram on its diagonal, cut and compare area of the two pieces. Teach area of other plane figures by analyzing them with triangles.

Throughout this year, there should be daily drills in adding long columns and in quick combinations involving fractions and percentages. Fractional analysis should be given. Ex. ¾ of 12 is 2/3 of what number? Analysis: One-fourth of twelve is 3. Three-fourths of 12 is 3 × 3, or 9. If 9 is 2/3 of a number, 1/3 of the number is ½ of or 4½. Three-thirds of the number is 3 × 4½, or 13½.

SIXTH AND SEVENTH YEARS.

In both these years, the brain work should be percentage and its applications, but there should be constant review of all previous forms of work. Individual and co-operative buying and the percentage of gain from the latter will be an interesting study. Profit and loss applied to the ordinary transactions of the home and the community, the percentages of profit in poor farming as compared with those in good farming, the percentages of gain in wasteful forestry as compared with those in economic forestry, the insurance of houses and of lives all make good, practical bases for the study of percentage. The subject of taxes, their purpose, the use made of the money raised, the usual rates of taxation, bond issues, their purpose and methods, the laws of the state and town or county concerning taxes, the kinds of taxes, the tariff, its effect upon prices, its relation to manufactures, tariff laws, etc., should be carefully studied. Simple interest should be taught and the children made expert in interest calculations. Commission of a practical sort, stocks and bonds as business men now treat them and insurance as it is now managed are all valuable. Very little time should be given to a bank account as a process, but children should be taught the customs of banks and how to keep a bankbook. They should be taught to deposit money and make out checks, to fill out negotiable notes and present them properly, to keep a checkbook and abstain from overdrawing. They should be taught the forms of notes and other business papers in common use and be able to write them. They should know the business terms in common use, such as maturity, protest, etc. Problems based on trade, manufactures, the real estate business, freight rates, the work of railroads, the marketing of crops, the purchase of supplies, will be found valuable. The calculation of the comparative economy of renting and owning houses and lands, of farming and merchandising, of country and city life, will be interesting.

Simple proportion, simply taught, should be given in these years. The children should be led to discover for themselves, the fact of the equality of the product of the expenses and the product of the means. In this connection very valuable problems can be based on the level with the principles underlying the relations of the power to the weight and the power arm to the weight arm.

Longitude and time should be taught in a practical way. The problems given should concern mostly places with which the children are familiar and the children should be led to illustrate each problem by diagrams. There should be careful explanation of the time belts in the United States and the bearing of these upon clock time. The calculation of the circumference of the earth's orbit and of the earth's motion in its orbit, similar problems with regard to the moon, air pressure on the surface of the earth, rainfall in different localities, etc., may be found interesting.

NATURE STUDY AND AGRICULTURE.

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"Nature will soon change all things which thou seest, and out of their substance will make other things, and again other things from the substance of them, in order that the world may be ever new."—*Marcus Aurelius,* VII, 25.

"If I were a teacher I would make excursions into the country with my children; we would picnic together under the trees, and I would contrive some way to give them a little live botany. They should see how much a flower meant to me. What we find out ourselves tastes so good! I would so far as possible let the child be his own teacher. The spirit of inquiry—awaken that in him if you can."—*John Burroughs.*

"The nature-study idea is bound to have a fundamental influence in carrying a vital educational impulse to farmers. The accustomed methods of education are less applicable to farmers than to any other people, and yet countrymen are nearly half of our population. The greatest of the unsolved problems of education is how to reach the farmer. He must be reached on his own ground. The methods and the results must suit his needs. My plea is that new educational methods must be employed before we can really reach the farming communities. I am not insisting that we make more farmers, but that we relate the rural school to the lives of the people and that we cease to unmake farmers."—*L. H. Bailey.*

I. Objects of Nature-Study.

(a) to put our youth in touch and in sympathy with the beauties of the world about us.

(b) To give them additional resources of life for their spare moments. Character and education are the result largely of the proper use of spare moments.

(c) To teach the proper relation that exists between man and the world in which he lives: the physical relation, the moral relation, the spiritual relation.

Our health depends on our knowledge of this relationship. To know that the house fly is a carrier of disease is to avoid him. Or to know that a well ventilated room purifies and keeps pure

the air and indirectly the blood, is to avoid breathing impure air.

A study of Nature's ways and Nature's laws impresses upon youth the moral of the solar system, and the mind absorbed in these things has less time to brood over evil and destructive influences.

To have impressed upon a child the lesson of one mountain scene, the beauty of one bird song, or the possibility of creating the delicate colors of a beautiful flower out of common earth, is to inspire the soul and almost to change permanently his spiritual life. Then is he better qualified to live and to worship.

(d) To direct the habit of observation while the mind is in the formative stage.

(e) To acquire source-material for teaching other subjects.

(f) "To enable every person to live a richer life, whatever his business or profession may be.

(g) Not primarily to acquire knowledge or to learn facts, but to develop an attitude of mind, a spirit life toward the world. With this, of course, comes knowledge of the richest kind.

II. Methods of Nature-Study.

(a) Collect a small museum of the most common objects of nature about you and place in the school room. Allow pupils to make up a collection of objects, such as sand, rocks, flowers, fruits, leaves, grasses, insects, old bird nests, metals, some nature photographs, and the like. There is no end to the material that may be secured.

(b) Make each class of objects a subject for special study, and show nature's way of producing them. Make drawings on the board of as many as practical, and in as many forms as possible, especially when you come to a study of plants, insects and birds. Leave these drawings on the board for weeks at a time.

Suggestions for teaching a lesson under this head: From your geology show that sand represents original quartz not fully broken down or worn away into soil, and that it resists longest the action of water. Have samples of several sizes of pebbles down to fine sand, illustrating the fact that the larger sizes are becoming smaller, while from the original quartz, pebbles are still being hewn out by various agencies.

(c) Have a laboratory of living things. This may assume the shape of a collection of pot-plants, and a school garden, but it must exist. Living things, if tactfully presented, always stimulate interest in pupils. In a study of these, pupils assert a marked individuality.

(d) From the circumscribed garden laboratory reach out from class to class of objects till all natural phenomena have been made part of the laboratory. Do not exclude from the list air, water, earth, sky, clouds, rain and the like. How much can one teach from the lesson of a silvery cloud that lonely floats through upper air!

"I wandered lonely as a cloud
That floats on high o'er vales and hills,
When all at once I saw a crowd,
A host of golden daffodils."

"I bring fresh showers for the thirsting flowers,
From the seas and the streams;
I bear light shade for the leaves when laid
In their noon-day dreams.
From my wings are shaken the dews that waken
The sweet buds every one,

When rocked to rest on their mother's breast,
As she dances about the sun.
I wield the flail of the lashing hail,
And whiten the green plains under;
And then again I dissolve it in rain,
And laugh as I pass in thunder.

I am the daughter of earth and water,
And the nursling of the sky;
I pass through the pores of the ocean and shores,
I change, but I cannot die,
For after the rain when with never a stain,
The pavilion of heaven is bare,
And the winds and sunbeams with their convex gleams,
Build up the blue dome of air,

I silently laugh at my own cenotaph,
And out of the caverns of rain,
Like a child from the womb, like a ghost from the tomb,
I arise and unbuild it again."

(e) Do not fail to impress upon youth the beauty of a starry night.

"Many a time,
At evening, when the earliest stars began
To move along the edges of the hills,
Rising and setting, would he stand alone,
Beneath the trees, or by the glimmering lake."

"If the stars should appear one night in a thousand years, how would men believe and adore, and preserve for many generations the remembrance of the city of God which had been shown! But every night come out these envoys of beauty, and light the universe with their admonishing smile."

The stars awaken a certain reverence, because though always present, they are inaccessible; "but all natural objects make a kindred impression when the mind is open to their influence. Nature never wears a mean appearance."

(f) Make a special study of phases of nature more closely related to the life of a people, remembering to stress the relation of these to other things. Under this heading would come birds and insects, and their relation to each other and to plant life. The economic study of these is as interesting as an aesthetic study of them.

(g) Make the earth, our daily and constant companion, an object of much study. The earth affords unlimited material for nature study.

"Now I am terrified at the earth! It is that calm and patient,
It grows such sweet things out of such corruption,
It gives such divine material to men, and accepts such leavings
from them at last."

The earth is the starting point for all our successes.

From "The Divine Soil" all material things have evolved, and from her all that is to follow will come.

Results of Nature-Study.

(a) Dr. L. H. Bailey says: "Its legitimate result is education—the developing of mental power, the opening of the eyes and the mind, the civilizing of the individual. As with all education, its central purpose is to make the individual happy; for happiness is nothing more nor less than pleasant and efficient thinking, coming from a consciousness of the mastery, or at least the understanding, of the conditions in which we live."

Happiness is largely a matter of habit, and one cannot form this habit unless he have a knowledge of his environment and is sensitive to the impressions of nature.

(b) Nature-study intensifies personality and aids pupils to think for themselves. In fact, nature offers more alluring inducements than text books for the assertion of the mind.

(c) Nature study educates toward nature, our daily companion, and teaches us to love the common things of life.

(d) "Nature-study tends toward simplicity of living." The simple life is the happy life.

"I am enamored of growing out doors,
Of men that live among cattle, or taste of the ocean or woods."

Teacher, have you ever gotten a real taste of the woods? If so, you know how important it is that your pupils should get this.

(e) Nature-study is sure to revolutionize school life, to transform it from the monotony of the printed page to the freedom of the open book of nature. It will bring an attractive influence to the school-room that cannot be gotten by the old methods of the profession. It will strengthen education, enlarge the ideas and broaden the horizon of the youthful minds, and attract rather than repel them.

IV. Relation of Nature-Study to Agriculture.

(a) Nature-study reaches the farmer at his own door and transforms him and his methods of thinking. Academic methods have failed to reach him and are bound to go.

(b) "Man is a land animal and his connection with the earth, the soil, the plants, animals and atmosphere is intimate and fundamental."

The new nature-study idea will be the means of bringing farm-life in closer touch with its own environment.

(c) Rural schools have greater access to material for carrying on nature-study; and since they train primarily farmers' sons and daughters for farm life, all possible means should be devised to bring about a feeling of happiness in the farm communities.

This already prevails perhaps to a far greater degree than one would think; but a love of nature and a knowledge of her laws will bring about a constructive influence in the farm community, and bring a new order of happiness.

(d) Agriculture is a form of nature-study, but is not yet developed as such in our schools. School gardens and boys' and girls' clubs may result in great good, if pupils are trained to think about their work, and not allowed to stress too much the purely commercial values of farm improvement. This immediate movement should develop into a study of the *laws of plant life* and the *ideal conditions for growing plants or animals,* as the case may be.

(e) Agriculture will be a means of proving the good to be derived from nature-study, while nature-study will help to develop the pedagogics of Agriculture. The mutual relationship that naturally exists between the two subjects will help to develop the spirit of investigation, and the spirit is worth all.

"There is no glory in star or blossom,
Till looked upon by a loving eye."

V. The True Conception of Agriculture as a Subject to Be Taught in the Common Schools.

(a) As a technical farm subject Agriculture does not mean much in the schools. As a vocation that affects the happiness of 50 per cent of the people in this commonwealth, it is a great and important subject.

To increase people's earning capacity is to increase their needs, wants and desires. Not to have these supplied is to produce pessimism and unhappiness. Therefore, it becomes the duty of the teacher to create interest in the subject by choosing living problems that attract, that develop, that educate. In this way the life, habits and vocations of a people can be reflected through natural channels.

(b) The subject of Agriculture can be made very attractive, if coupled with nature-study, by bringing country children directly

in touch with their own mode of daily life, and showing them that education after all is fitting one for life.

(c) Shall I make an effort to teach how to make more corn or cotton or any other farm crop on a given acreage? My answer would be, not as a fact *per se.* This should be the result of good teaching, and should be true because you have made a more thrifty boy or girl out of your pupil. Do not teach how to farm. Perhaps, the farmer knows more about farming than the teacher. If you knew the subject and were teaching grown-up farmers, it would be all right to teach farming. But our schools are dealing with young people whose desires are entirely different from those of the grown-ups, and to succeed with them is to rightly choose the subject and tastefully present it. These young minds need to be brought in touch with objects that will develop the habit of inquiry.

(d) Do not let Agriculture take the place of nature-study, but on the other hand, "nature-study may be more strongly directed in agricultural applications, as the schools are ready for it, but the process is still nature-study. All good agricultural work in the grades must be nature-study."

What is this nature-study method? "To see accurately; to reason correctly from what is seen; to establish a bond of sympathy with the object or phenomenon that is studied. If the pupil studies corn, he should have corn in his hands and he should make his own observations and draw his own conclusions."

(e) Teach the natural history of the crop by having growing plants, and not try to establish truth by what somebody has said about it. In teaching *growing corn,* you get before the young minds botany and agriculture, and their relation each to the other. But in order to succeed you must have *corn growing* in reality, not in books and pictures. It would be better even to teach this in the open where corn is growing as a staple crop, and not in the laboratory.

(f) Correlate agriculture with such subjects as English and Arithmetic. Correct speech can be cultivated by talking and writing about one thing as well as about another. Then why not learn to talk rightly about the things in which we are most interested? This does not apply to technical grammar, which must come as a training course in the higher grades.

Material for arithmetical calculations will be found plentiful in all agricultural subjects, from the forest to the farm proper. Make calculations of the number of plants per acre and yield per plant of almost any crop. This will impress the student with the idea of good plants for high yields.

A LESSON IN EACH OF THE FOLLOWING SUBJECTS: A BIRD; AN INSECT; A PLANT; AN ANIMAL.

A Bird: We shall select for this study a chickadee. We must first learn how the live bird looks, his color, size and habits of life.

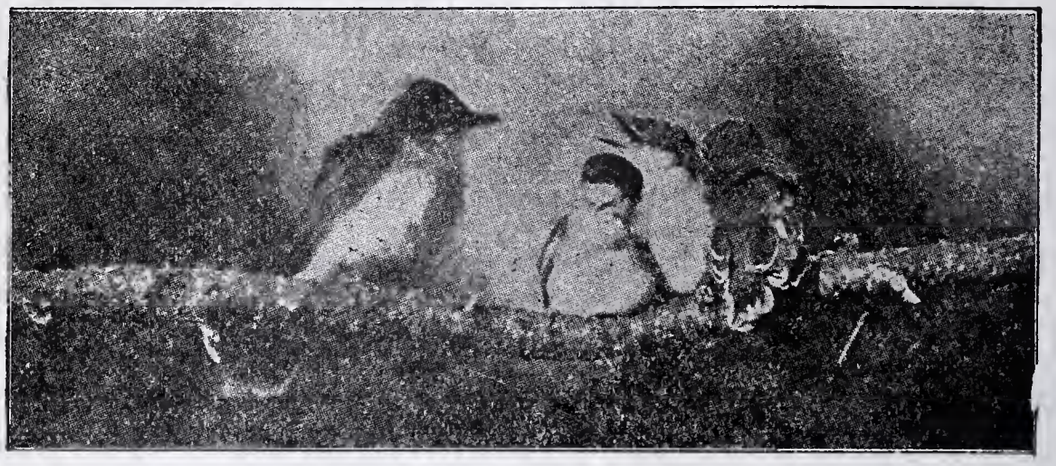
Color: Top of head and throat shining black; sides of head white; back, slaty or ashy color; outer parts of wing marked with white; tail feathers marked with white; breast white; belly and under tail slightly cream color.

Size: About 4 to 4½ inches long.

Habits: Usually flitting about in medium height trees, feeding upon the insect life to be found there. Continually giving his famous and popular call note, *Chick-a-Dee-Dee*. To hear it once and know it is to ever remember it thereafter. In winter he is with us and in summer he breeds with us. He nests in holes in stumps or trees, and lays about five or six eggs, white and spotted with cinnamon brown at larger end mostly.

A Lesson. This bird is perhaps one of our most useful birds and must be protected from the young robbers. Suppose we make an estimate of his work in the course of a year. This little bird or its mate makes about two hundred trips a day to the nest during brooding season, taking each time at least twenty-five plant lice or insect eggs with which to feed the young. This makes for each nest the destruction of at least 4,000 or 5,000 small insects and insect eggs. This makes a pretty good day's work when we consider how destructive insects are to plant life. But there are at least five of these nests to the square mile in country districts in Georgia and about 60,000 square miles in the state. The work they alone do makes a grand total of 4,000 x 5 x 60,000=1,200,000,000 insects and eggs per day, during the entire time the birds are rearing the young. But they do almost as much good every day in the year. Now, turn this number of insects loose to multiply naturally and they will do an immense amount of damage,—in fact, they will almost keep the growth of plant life in check.

But the chickadee is only one of three hundred species of useful birds that live within the bounds of the state of Georgia.



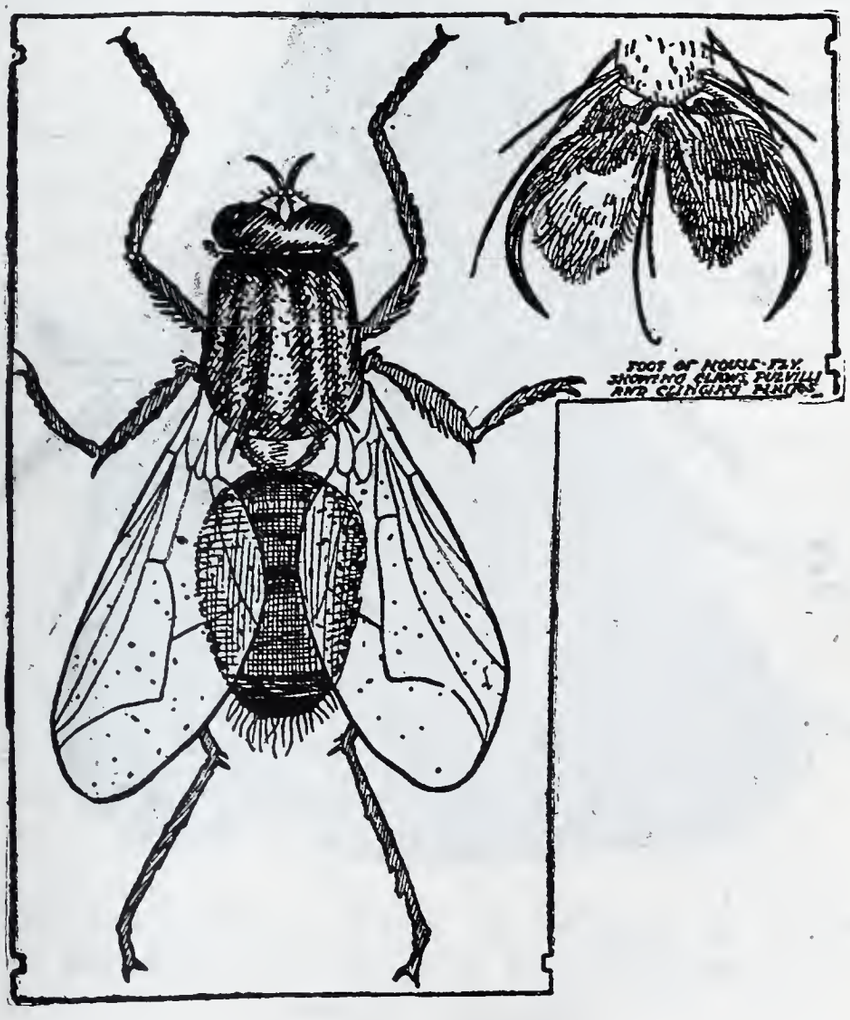
FRIENDS OF THE FARMER.

The birds as a population have been found to be a natural check upon the growth of insect life, and if left unharmed will help to control all insect pests about the farm and garden, but if destroyed, will multiply less rapidly and, insects getting the upper hand of man, will cost the state many times its total revenue each year. Teachers should be interested in this live subject. Learn the birds: the catbirds, the titmice, the nuthatches, the warblers, the vireoes, the flycatchers, and all the others. Birds will be found in city and country districts, and no one can have any excuse for not knowing them, especially teachers.

An Insect: For this study we select the *house fly*. Everybody knows the fly, our daily friend (?) and companion. *I mean enemy*. Though he may seem very affectionate by repeatedly alighting on our lips, he is one of our most deadly enemies. Born in filth, he revels in the filthy and unsightly, the dangerous, disease-producing, decaying litter about the place, and brings his mess of pottage directly to our lips to lodge it there and bring on disease and unexpected death many times. We cannot be too careful in our efforts to avoid the house fly. His life history will prove to us his standing. The following four stages tell the story: *the egg, the larva, the pupa, the fly* (as we know him). The larva is what we know as the *maggot,* whose very name almost produces nausea. Some people cannot look long at a bed of them without considerable discomfort. The grown fly is no cleaner than the maggot; in fact, he is far more dangerous.

it is the fly himself that carries tuberculosis, typhoid fever, sore eyes, dysentery, and all contagious and infectious diseases from one person or community to another. Their feet are well adapted to this kind of work. Filth sticks to them and from them is distributed over the objects on which they crawl.

Protection Against the House Fly: Keep stables and other breeding places clean and thus prevent them from multiplying. Screen the house and school house. Do not let them crawl over the dining table and the food. If they are already in the house, use insect powder to kill them. Burn pyrethrum powders, or carbolic acid. The fumes are deadly to flies. A teacher should prove all this and more.



THE TYPHOID FLY.

A Plant: For this study we select the cotton plant, which makes a fine subject for any southern school. In addition to the purely botanical study, it will afford many lessons in simple economics. Pupils must learn to tell of the size and shape of the plant and leaves, and of the construction of the flower. This flower is

perfect. What is a perfect flower? One that has all four of the parts, calyx, corolla, stamens, and pistil. The calyx is the green part or squares in which the other parts of the flower are enfolded. The bright or highly colored parts form the corolla. Within these are the *essential parts* or the *sex organs,* the *stamens* and *pistil.* The stamens produce the male part or pollen grains, and the pistil the female part or the ovaries. Make a cross section of the flower and study these parts very carefully, as a knowledge of them will very often lead to important and interesting questions. It may

1. PETALS; 2. SEPALS; 3. OVULE; 4. OVARY; 5. STIGMA ON WHICH POLLEN MUST FALL; 6. ANTHERS OR POLLEN HOLDERS.

be the means of winning the pupil to think for self. If the pollen does not reach the pistil there can be no fruit and seed produced. Prove this by taking the pollen out on the day before the flower is to open. The pollen that this immediate flower produces or the pollen that comes from another kindred cotton plant will fertilize the ovule and produce fruit and seed. Prove this by experiment.

Let pupils—every one—perform this experiment and do it successfully. On this principle or truth depends the success of *plant breeding*. Make a study of the variations in appearance and fruiting of several plants of a kind, and show how important it becomes to learn how to select from the best. An increase of one lock of cotton on each plant in Georgia would be worth $8,000,000 to the state annually. A boll to the plant would be worth four times this amount, as there are four locks to each boll. It is, therefore, important, that we teach the necessity of carefully selecting plants to be used for breeding purposes to increase our crop production.

An Animal: We shall select a horse for the study of an animal.

History.—The horse descended from wild horses in many parts of the world. Horses are not natives of the Americas, but were introduced into America by the Spanish and French discoverers. It has taken much care and good breeding to evolve the present horse from the original stock. To have kept the horse as good as the Arabian steed for racing and galloping would have required much care in selection and breeding.

Classes.—Draft horses and light horses or roadsters. Draft horses have been best developed in Belgium, England, France and Scotland, and are the Percheron and the Clydesdale. Roadsters have been developed from the Arabian steed. We have, as a result of considerable crossing and breeding, the Virginia and Kentucky saddle horses, the French Coach, the Cleveland Bay, and the English Hackney. The mule is a cross between the horse and the ass and is a good draft animal.

The horse requires regular and wholesome food and drink to thrive, and must have these. He also feels better and will do more work if he has a dry, clean bed to sleep on.

"Probably no animal suffers so much from cruelty, neglect, and ignorance of its owner as does the horse. It is often driven, worked and fed with little judgment, its health injured, and its period of usefulness is lessened or cut short by neglect and mismanagement. Bad treatment does not stop here. It is often subjected to mutilation which permanently injures it."

Make some study of the physiology of the horse.

Have boys to count the heart beats per minute. The number of breathing times per minute, when rested and when tired. Rapid

breathing wears the horse out. These little experiments will prove quite interesting and afford splendid materials for laboratory work.

Study the source and nature of food for the horse. The grains or starchy foods, and the hay or protein foods. A proper proportion of these determine the value and length of life of the horse, other things being equal.

BOOKS THAT MUST BE READ BY TEACHERS, IF THEY WOULD SUCCEED IN THE TEACHING OF NATURE STUDY AND AGRICULTURE.

The Nature Study Idea. L. H. Bailey, The Macmillans, New York, $1.00. This book is the very best general treatise on the matter with which it deals, and should be required of every teacher throughout the entire country.

Nature Study and Life. Hodge. A more specific study of various phases of nature.

Wake Robin. John Burroughs, Houghton Mifflin & Co., $1.25. One of our best books on outdoor life, and fine for reading to almost any grade from the third up.

Beauties of Nature. John Lubbock, Macmillan & Co., $1.50. Deals with the beautiful things in the world about us, purely from the standpoint of aesthetics. Teachers will find it valuable and helpful in their work.

Useful Birds and Their Protection. Edward H. Furbush, Mass. Board of Agriculture, 1908. About $2.00. The best economic study of birds in their relation to insects. Well illustrated with cuts and full-page photos.

Birds in Their Relation to Man. Weed and Dearborn. Lippincotts, $1.50. A fine economic study of birds, in their relation to man.

Audubon Leaflets. By various authors. Published by National Association of Audubon Societies, New York. Contains the best of information for bird study, and colored and outline plates for busy work in Nature Study. These should be in every school. Write for them to T. Gilbert Pearson, Greensboro, N. C.

Southern Field Crops. J. F. Duggar. The Macmillans, $1.75. A good popular treatise on the common field crops of the South, and the diseases and insects infesting them.

Songs of Labor. J. G. Whittier. Houghton Mifflin & Co.

Nature,—Addresses and Lectures. R. W. Emerson. Houghton Mifflin & Co.

Songs of Nature. Edited by John Burroughs. McClure Phillips & Co., New York, $1.50. One of the best collection of Nature poems to be found in the language.

Bird Guide. Part II, Land Birds. Chester A, Reed, Worcester, Mass. The best pocket manual yet published on the land birds east of the Rockies. All the birds described are in natural colors, and the manual is small and can be carried in the vest pocket.

Bird Stories from Burroughs. Houghton Mifflin & Co., Boston, Mass.

Bulletins. United States Department of Agriculture, Washington, D. C. These bulletins can be had almost all of them without cost, and appear on practically every farm subject. Write to above address for lists.

The Country Life Movement. L. H. Bailey. The Macmillans, $1.25.

Agriculture. Soule & Turpin. B. F. Johnson, Richmond. A good book on the fundamentals of agriculture.

SPELLING.

E. C. Branson, President,
State Normal School, Athens, Ga.

I. Principles.

1. Spelling is the accurate oral description of a word for the ear, or the correct reproduction of it in letters for the eye. A proper name is incorrectly spelled if the initial letter is not a capital; or a hyphenated word, unless the hyphen is in proper place; or a noun in the possessive case, unless the apostrophe is properly used.

2. The two fundamental purposes in spelling are: (1) the ready recognition of printed or written words as an aid to reading, and (2) the correct reproduction of words in language for the eye, as in writing or typewriting.

3. The primary spelling book has a pedagogical purpose entirely different from that of the more advanced speller. When these purposes are confused, in the book or in the teaching, spelling in the primary classes will retard for a year or more the child's ability to read, or rob it of joy and pleasure for all the years thereafter.

4. In a good primary spelling book, under a good teacher, the child learns quickly to determine new words for himself and by himself. This is the distinct purpose of a good spelling book for beginners. It is also the distinct purpose of all the spelling that the teacher has the child to do in the first few years of his school life. If the child does not come into ready recognition of words he will never read intelligently, intelligibly, and eagerly.

The one simplest, best way to free the child from dependence upon the teacher in the calling of words is to use a primary spelling book in which the familiar one-syllable words are grouped according to sound likenesses. A primary speller not based upon sound analogies in the arrangement of words is a hindrance and not a help to the child in learning to read. The child in a primary spelling book in which the words are phonetically grouped is coming to be acquainted with the

words that rhyme. He learns a group of words as easily as he learns any one word of the group, and the words of these groups hang together in his mind as grapes do in a cluster. Instead of learning words one by one, he learns them in bunches, so to speak. A good primary speller in its grouping of words will exhaust the phonetic likenesses of familiar one-syllable words, and these number in English about twenty-five hundred words.

Dr. Bain has announced that the difficulties of English spelling are practically exhausted in our monosyllabic words; and Richard Grant White claims, properly enough, that it is only on the basis of analogies that the child can determine for itself the value of new word forms.

I cannot emphasize too strongly that the power of the child to determine new words depends upon his sense of analogy; that is to say, upon the likeness of a new, unknown word to a phonetic group already known. But this power of recognition is not true of new words alone; it is true of every other new experience of the child.

Nor can I say too strongly that phonetic drills and reliance upon diacritical marks are a mistake in the first two or three years of the child's school career. These drills have a distinct purpose and value in the last two or three years of the child's school experience, as aids to articulation, enunciation, and correct pronunciation.

5. In the oral spelling of words of more than one syllable, the syllabication and accent ought always to be insisted upon by the teacher. Fundamentally the sense of syllabication is an ear-sense, and the teaching must be addressed to the ear. It is so by very definition: "A syllable is a word or so much of a word as is uttered by one impulse of the voice."

I believe it to be a mistake to separate written words by spaces or hyphens except in written tests to determine the development of the child's sense of syllabication. That is to say, it is useful in testing, but never in teaching.

If you will analyze your mental effort to pronounce a new word that you find in a newspaper or book, you will quickly perceive that you cannot pronounce it at all unless the mind unconsciously separates it into syllables; and you will further-

more find that you are falling back upon sound-memories and not sight-memories.

Oral spelling that calls solely for the letters of words in proper order with no appeal to the pupil's sense of syllabication and accent is a mistake, for the reason that it does not accomplish the full purpose of oral spelling; that is to say, it does not heighten the pupil's sense of syllabication and accent, whereby he is able to determine new words by himself and for himself.

6. It must be borne in mind that eighty-two school children in every hundred in Georgia live in the rural regions and in small towns and villages; that frequently these schools are ungraded, one-teacher schools; that one teacher must teach all the grades of the common-school course from first to seventh; and that she has a minimum of time for each class, sometimes only a few minutes.

This means that both the text-books and the methods in spelling, or in any other common-school subject, have their greatest value in helping the pupil to help himself. Under these circumstances the child's part of his education in the common-school will come out of his own free effort.

In many ways this is not bad. The country child gets a minimum of schooling, both in quantity and quality, in the country school; but he gets the maximum of education, because in the nature of things it is the education that comes from self-effort under guidance. If this guidance be both sympathetic and intelligent, then the best has been made of a difficult situation. One of our educational philosophers has recently said that our city children are wonderfully schooled and poorly educated, because too much is done for them by the teacher and too little is left for the children to do for themselves.

At all events, eighty-two children in the hundred in Georgia, and something like this number in thirty-five other States of the Union, will have their whole education retarded by poor methods of teaching spelling or by spelling books constructed upon wrong principles.

7. The spelling book for the more advanced grades ought to contain words selected according to three principles; it ought (1) to contain words in common use that are commonly misspelled, along with the two other or three most valuable rules

for spelling. It ought (2) to contain stated reviews of common words commonly mispronounced, with drills in phonetics and diacritical marks, pronunciation and enunciation. And (3) it ought to contain abundant noble selections in prose and poetry for dictation exercises, in the course of which the pupil learns the common English forms; that is to say, the conventional use of capital letters, hyphens, apostrophes, the punctuation marks, etc.

A distinct purpose in advanced spelling is the teaching of these English forms. If, therefore, dictation spelling of prose and poetical selections is omitted, then one of the most important purposes of advanced spelling is neglected. Even the oral spelling of the important words in such a selection is better than the oral spelling of words in columns, or the dictating of words to be written in columns.

The Spelling Book, like the poor, we shall always have with us. Therefore, Spelling Books constructed upon proper principles and taught by intelligent teachers, in intelligent ways, are fundamentally important.

QUIZ.

1. Define spelling. Distinguish between oral and written spelling. When is a word correctly spelled?

2. What are the two fundamental purposes of spelling? What is the use of spelling in the primary grades?

3. What is the difference between a good primary spelling book and a more advanced book? What is the result when these purposes are confused?

4. What is the distinct purpose of all spelling in the first few years of a child's school life? What effect upon the child's ability to read has the use of a good book, under a good teacher? Why should the words of a primary spelling book be arranged according to group likenesses? What does Richard Grant White say about it? Is he right? What result follows the child's mastering of monosyllabic words? About how many such English words are in common use? In what classes do phonetics and diacritical marks have a value? What is their value? In what classes are such drills useless or hurtful?

5. Define a syllable. Why are syllabication and accent important? How teach them? Why appeal to the ear-sense

in teaching syllabication and accent? What is the particular use of dividing syllables by spaces or hyphens?

6. Under what disadvantages does the country teacher labor? Why does the country child get a maximum of education under these circumstances? In what sense are city school children wonderfully schooled and poorly educated? What kind of teacher gets best results in the country schools?

7. What principles ought to govern the make-up of the advanced speller? Why? What is meant by English forms? How can these be taught in connection with spelling?

II. Purposes.

1. To aim directly at reading from the start. 2. To develop promptly a ready recognition of words by pupils. 3. To lodge a memory of word-forms in the fingers. 4. To teach the vocabulary of every-day English. 5. To teach the vocabulary of the common-school texts. These two purposes concern about 10,000 words; about one-third the number in the average spelling-book course. 6. To teach (1) the forms (spelling and pronunciation) of the words acquired, (2) their meanings and uses, and (3) their forms in written English (capitals, hyphens, quotation marks, etc.). 7. To teach the use of the Dictionary, in order to extend the child's vocabulary now and later. 8. To excite an interest in words; (1) their derivation, (2) composition, (3) history, and (4) choice. 9. To teach the important rules of spelling. 10. To educate the pupil. Teaching spelling and educating the pupil by means of spelling are different things. Appeals to arbitrary memory of word-forms are not quickening but deadening to intelligence.

Quiz.

1. State five important purposes in teaching spelling, in the order in which you deem them important.

2. What things must be known about a word before it is fully known?

3. Which two of these are usually neglected in spelling? Which of these can be taught in primary grades? Which of them in advanced grades?

4. What is meant by lodging a memory of word-forms in the fingers? How can it be done? Why is it important?

5. State accurately the three most important rules of spelling.

6. Why is the constant use of the dictionary important?

7. State and illustrate the difference between teaching spelling and educating the pupil by means of spelling.

III. Methods.

I. primary grades. (Words from Readers mostly.)

(1) Copying words in script from daily lessons. (2) Sight-spelling; orally from blackboard, chart, or open book. (3) Memory spelling; the new words in all lessons. (4) Word-building; using letter cards (both in script and in Roman text). (5) Phonic word-building; (a) to teach the eye and ear the sign-and-sound likenesses of words; (b) in order to develop ready self-determination of new words. (6) Picture spelling: (a) children write words for things seen in pictures, or (b) use outline blackboard drawings. (7) Sentence building, (a) using word-cards in script and in Roman text. (8) Short sentences, (a) dictated by teacher, (b) from given words. (9) Elliptical sentences: copied and completed. (10) Picture stories, short sentences, suggested by pictures. (11) Classifying words: (a) alphabetically, (b) according to number of letters, (c) according to number of syllables, (d) action words, or name words, etc.

2. intermediate grades.

(1) Sentence making; for doubtful or difficult words, in all lessons, (a) orally, (b) in writing (2) Dictation exercises; paragraphs assigned for study from any school book, the readers mostly. (3) Recollection lessons. (4) Observation spelling; (a) indoor observations, (b) outdoor observations. Spelling to be centered largely around nature studies. (5) Reproduction stories. (6) Marking words diacritically—beginning with Third Reader classes. (7) Making word lists for given sounds. (8) Grammatical spelling; (a) Plurals; (b) Possessives, (c) Past tense forms, (d) Contractions and abbreviations, hyphenated words, etc. (9) Memory verses and maxims. (10) Supplementary lists, made by the pupils, (a)

in the school, (b) out of school; of things seen on the way to school; common farm or garden products; household furniture; table ware and foods; articles made of clay, iron, silver, etc.; garden and farm tools; Bible characters; amusements and games; things found in a boy's pocket; animals that eat grass or flesh; that swim, wade, etc. (11) Common mis-spelled words. (12) Spelling matches. Suggestions: (a) Preserve sides throughout the session, if possible. (b) Keep pupils in the ranks throughout the exercise. (c) Each side notes the misspelled words of the opposite side in all exercises; reports them to its captain, who lists them for the teachers to give out to the other side. (d) The teacher tallies the words missed by each side, and also records the victories by days. (e) Matches once a fortnight. (13) Trapping in oral spelling. (14) Listing, sounding, and spelling words difficult of articulation; mists, lists, morning, ringing, etc.

RECREATIONS.

1. Spelling rhymes. Teacher gives out a word, pupil spells, giving out a rhyming word and spells. 2. Building words out of the letters of a given word: "legislature," for example. 3. Teacher gives out the name of a tool, pupil spells and calls the name of another tool for the next pupil to spell and so on. 4. Each pupil calls out and spells a word beginning with the last letter of the word previously spelled. 5. Pupils point out objects, parts or qualities of objects; class spells. 6. Pupils describe words, class spells. "What gums envelopes?" Class spells "mucilage," ets. 7. One pupil gives out a word, the next spells its opposite. "Straight," "crooked." 8. Spelling synonyms.

3. UPPER GRADES.

(1) Dictations. (2). Common misspelled words. (3) Teach the important rules of spelling, (a) by induction, (b) by use. For example: The rule of doubling the final consonant; the rule for dropping the final silent **e**; the rule for changing final y into i. (4) Spelling derivatives from primitives given. (5) Defining deriatives etymologically. (6) Forming words from common foreign roots; like graphein, facere, etc. (7) Making word lists for given suffixes or roots.

like un—, —ion, —logy. (8) Listing words according to origin—Latin, Greek, Arabic, Celtic, etc. (9) Word studies, as they occur in course of upper class work. "Swinton's Rambles Among Words" is full of suggestions to the teacher. (10) Listing and sounding words commonly mispronounced.

QUIZ.

1. What words, for the most part, ought pupils to be spelling during the first two or three years in school? Why? How?

2. How ought these words to be grouped? (Each new word in every lesson ought to be written in its proper group on the board by the teacher so that the child may learn the whole group. The group of words can be learned by sight-spelling and later by memory spelling.)

3. Why is sight-spelling in primary grades important? Why should memory spelling come later?

4. What is meant by phonic word-building? Why is it valuable?

5. What is meant by picture spelling? What materials are necessary? In what grades would you use it?

6. What is meant by sentence building? What materials are necessary? Why is this method valuable?

7. Why are stories made up and written by children from pictures valuable?

8. Why is sentence-spelling better than the spelling of words in columns?

9. Why is sentence making for doubtful or difficult words important?

10. What is meant by grammatical spelling? Why important?

11. Why is the memorizing and writing from memory of noble verses and maxims important?

12. Why are the reviews of common, misspelled, or mispronounced words important?

13. How conduct a spelling match without bickering and confusion among the pupils?

14. Write a list of words suitable for articulation drills.

15. Describe fully two exercises in recreation spelling. What value did you find them to have?

16. Describe fully two spelling methods for upper grades and state their particular uses and values.

IV. Suggestions.

1. Get spelling mostly from the readers the first three years at least, and aim all spelling all the time at intelligent reading, and correct written forms. 2. Omit, therefore, infrequent words,—mere catch words difficult to spell. Stress the words the pupil needs constantly—the vocabulary of the various school books, certainly. 3. Do not have the pupil spelling words from the spelling books, the meaning and uses of which neither he nor the teacher knows. 4. Make sure of meanings and uses, along with forms of words everywhere. Breed in him the habit of using the Dictionary. 5. Remember that good oral spelling teaches (1) the sound values of the letter—groups or graphs, (2) syllabication, and (3) pronunciations; and cannot, therefore, be dispensed with. You can easily have too much of it, and you can easily rob it of its chief value, by neglecting to have pupils for the first three years to pronounce the syllables as they are spelled. 6. In oral spelling: (1) Give out the words once, distinctly. (2) Permit no guessing. (3) Have pupil to pronounce word before spelling it. (A lesson in articulation and pronunciation, this.) (4) Have him pronounce each syllable as spelled. Also call capital letters, hyphens, etc., when they occur. (5) Have sentences for doubtful words, (6) Do not begin always at the head of the class, nor with the first word in the lesson. (7) Vary the method only when flagging interest requires it, but do not fail to do so then. (8) Preserve good lines and postures. 7. But remember that spelling is first an aid to the ready recognition of words (reading) and next to the ready reproduction of words (writing); that in after life we do not need spelling in oral speech, but only in written speech; that we spell in life with our fingers; that writing words is the best way to learn to write words; and that at last we must lodge in the fingers the memory of word-forms. 8. Written spelling, (1) teaches the forms of English, capitalization, punctuation, use of hyphen, apostrophe, capitals, quotation marks, paragraphs, etc., (2) gives each pupil more words to spell in each lesson, (3) keeps all the pupils engaged, (4) gives a

better chance to criticise and correct misspelled words, (5) but takes more time for the recitation, and (6) tempts pupils into dishonesty. 9. Have no more written work than you have time to correct, be that much or little. Much writing as certainly fixes bad habits as good ones; hence the absolute need for inspection. Take only a pupil's best work. 10. Develop in pupils the power of self-criticism and correction. (1) Have pupils correct their own work with open books; (2) or check up one another's work similarly. Correction is the aim; not detection of errors by teacher, merely. (3) Examine the work yourself only after the corrections of the pupils. (4) Have misspelled words re-written a number of times by the pupil. 11. Assign spelling lessons occasionally from the day's lesson in Arithmetic, or Geography, or any of the other school books.

QUIZ.

1. Why omit in spelling exercises words infrequently used and mere catch words difficult to spell?
2. Why is it important to center attention upon the meaning and use of words, as well as upon their forms?
3. Mention three mistakes easily made in conducting an oral spelling exercise.
4. What are the particular values of written spelling?
5. Why are oral spelling exercises more frequently in use than written spelling exercises?
6. What are the common faults, on part of the teacher, in written spelling exercises?
7. What is the value of pupils correcting one another's spelling exercises? What mistakes are to be avoided?
8. Why assign spelling lessons occasionally from text books other than the spellers?
9. State five important practical suggestions in spelling methods. State the importance of each.

V. Reference Books.

Jones's Principles of Education, pp. 63-65. American Book Co.

Roark's Method in Education. Chapter IX. American Book Co.

Garlick's Manual of Method, Chapter X. Longmans & Co.

Landon's Principles and Practice of Teaching. Alfred M. Holden, London.

Winterburn's Method in Teaching. The Macmillan Co.

THE TEACHING OF READING.

C. S. Parrish, State Supervisor.

The purpose of teaching a child to read is that he may be able to interpret the thought expressed on the printed page, first, for the advantage of his own personality, second, for the advantage of others. For the first, he needs a complete mastery of the symbols of the printed page, for the second a mastery of his own voice and organs of speech as instruments of expression. In order to make him willing to undergo the drudgery involved in the mastery of symbols, he must have a motive, and the best motive to use is the desire for the thought obtained through the symbols. For this reason, the earliest work in reading should concern mainly such thought as the child may have and wish to express, or a form of knowledge the mere hint of which arouses his interest. The recognition of words is important, but not half so important as the expression of thought or as the gaining of thought which will enrich the child's mind and react in stimulating him to expression.

The greatest mistake which a teacher of young children can make is to stress form rather than content, and to aim to teach them to recognize a great many word forms rather than to gain a great many ideas. A little study of children's minds on entering school will reveal a great of content which can be worked up into more complex forms, and, for a year or two, contact with nature, with people, with industries, with music and art literature are all very important. There should be studies of plants, insects, trees, flowers, stones, the weather, birds, the sky, the clouds, rain. hail snow and frost. There should be stories in season and out of season. Pictures should be looked at and made. Songs should be heard and sung. Books should be listened to as they are well read, and the pictures they suggest should be "seen" in the mind. As this is being done, the children should read and write about the wonderful and beautiful things they are learning and doing. Incidentally, the words they need to use as they read and write should be learned, but there should be no learning of words for the sake of words.

After a few months of work of the kind described above, the children need to gain some independence in learning any new word which they need and the wise teacher begins the phonic

drill which is to result in some of the desired independence. Later, diacritical marks reenforce the mastery of sounds by indicating the sound of the letter in the special word to be learned, and independence in learning new words becomes complete.

It will readily be seen that the word, sentence and phonic method in wise combinations are all referred to above. This is the combination method which is now in practically universal use. There are many people still living, however, who remember the alphabetic method which so tried their patience and disgusted them with all school work in their childhood. The objections to the method are convincing. In the first place, the name of the letter, which was learned first under that method, has, ordinarily, no connection whatever with the sound of the letter as heard in the word, and, after the child has associated these names with the visual symbol or "knows his letters," he is no nearer reading than he was before. Sometimes, indeed, the letters "get between" the child and the word and he cannot learn words as well as he could without the letters. The delusion that the names of the letters help in the pronunciation of the word is easily explained by the law of association, which states that when two or more things have been in the mind together once, they tend to be there together again. A child says, "aytch-ā-tēē." The teacher says "hat," and the child repeats the word. The next time he says "aytch-ă-tēē," "hat" tends to come to his lips also, not because "aytch-ā-tēē" helps him with "hat," but because, having been in the mind together before, the two things tend to be there together again. "Bēē-ō-wī" would have suggested "hat" just as strongly and would have helped just as much in pronouncing it if it had been associated with it as definitely. Another objection to the alphabetic method is that it is synthetic, beginning with the parts and building up the whole from them, while the child's mind works analytically, grasping first the whole and then recognizing the parts. This synthetic method is an attempt by the adult mind to force its processes upon the child. It was once used in writing, drawing and singing as well as reading, but is now discarded in all of these. We read and write the sentence, draw the object and sing the melody at first and afterward analyze them for the sake of understanding them better. The final objections to the alphabetic method are

that it is slow, wastes time, fatigues the children and is apt to result in poor reading. There is a probability that all good readers who were taught by the alphabetic method came to use the word and sentence method unconsciously and discarded the use of the letter without being aware of it.

The exact use of the combined word and sentence method varies with the need and the interest of the child. In its best form, it is always connected with other work, and the child is learning several other things at the same time. One good first lesson would be to have the children talk about preparing apples to dry, and when a child expresses himself in a sentence, write it on the board and have the other children read it. "I have a large apple," some child will probably say. This should be said in the hearing of the other children, and when the child says it, those who heard it can read it. "I have a small apple," some other child can be led to say, and the teacher can again write this and have it read. "My apple is red," "My apple is striped," "My apple is green," My apple is round," would, probably, be other sentences given, all of which would be written and read. Out of these sentences the teacher would, probably, select the word "apple" and attempt to give the children a good visual image of it by "word hunt" and by short drills upon it. The children would almost certainly know "My" and "is" without any formal teaching at all. The teacher would, probably, then have the children cut the apple in half. She would succeed in this with her own and would lead the children to say, "This is one half of an apple." "I have two halves of an apple." "I put two halves of the apple together." "Now I have all of the apple." They would then subdivide the halves and say, "This is one fourth of an apple." "This is two fourths of the apple." "Two fourths of the apple make half the apple." "Four fourths of the apple make all the apple." These sentences would be written and read, another word taught and one or two more picked up incidentally. This work should go on from day to day. "My apple has five seeds." "My apple has nine seeds." "My apple has eight seeds." "My apple has six seeds." "My apple has seven seeds." These sentences would be written and read and "seeds" would be taught. Probably "six" and "ten" would be picked up incidentally. This work would go on from day to day and many of the words would be in constant use, so that the

children would not forget them. At the same time, the children would probably be watching the birds and "I saw a red bird this morning," "I saw a robin," "A mocking bird was in our oak tree," etc., etc., would furnish occasion for learning "bird," and picking up other words. They would be listening to the stories of "The Three Bears" and would read about them, learning the word "bear." They would make some lemonade for their lunch and would read the directions for that, learning the words "lemon" and "sugar." They would copy the words and sentences from the board and would in that way be learning to write and to spell.

The teacher should understand what is happening in the child's mind in word learning if she is to help in the process. First, there is auditory image. Some one says the word. Then there is a visual image. The word is written on the board. This is to be translated into a motor image resident in the organs of speech and the motor image is to be tested by the auditory image previously gained. Presently the visual image is to be translated into a motor image, resident in the arm, and this is to be tested by means of the visual image or by means of a visual impression gained directly from the board. Of course, the child should be and is unconscious of all this as the blackbird is of the notes of his morning song, but the teacher must know in order to help.

After the child has learned a good many words from mere visualization, he is ready to begin to analyze them with their component sounds. This should be done, at first, with words with which he is entirely familiar and should be practiced incidentally a few minutes each day until he can give the sound of almost any character he sees. There is no reason that this should not be helped by short drills from cards or chart, *provided* it is done *incidentally* and for only a few minutes at a time. The main work of reading should go on just as it did before the phonic drill was begun, and should concern things in which the children are interested and which they want to read about. Whenever a new word is to be learned, the children should sound its parts if they can, but they should not abstain from learning it because they do not know all its sounds. They learned words before they knew any sounds and knowing a few sounds should not hinder them from learning any word they

need. They have been visualizing words. They can do it again. There is no reason that they should not learn a common combination like "at," and after having learned the sounds of b c, f, h, m, n, p, r, and s, build up bat, cat, fat, hat, mat, pat, rat and sat, but if the reading is subordinated to this, instead of using the drill as a help to the reading, harm is done. It is entirely inadmissible to make the order of lessons read depend in any way upon the drill. The children should read what is interesting to them and what will give information about the work they are doing. When they face a new word, they should learn it by sounding its parts if they can. If they cannot, the teacher should then tell them what it is and they would read on. At the end of the lesson, or before it, the teacher should give a little drill on the unfamiliar word. At a different time each day, there *may be* an exercise in word building of the kind indicated, but many children build words from there component parts or analyze them into component parts without this sort of exercise. Many combinations, such as *at, an, in, on, ill, ell,* etc., are very fruitful in their yield of words when different letters are prefixed, but these are not always the words the child needs most and his reading should not be arranged so that they will be needed.

There are a great many phonic "systems" now offered the teacher as learn-to-read-quick devices. They all have two main fallacies. The wise teacher does not want the child to read too quickly. She wants his reading to keep pace with his development of ideas and she knows that if it runs ahead of this development it will degenerate into mere word calling. Hence the quick learning to read promised by the "system" is undesirable. In the second place, they all subordinate the matter of the lesson to the phonic drill. This is fatal to interest and, therefore, to real progress. The writer once watched an eminently skilful teacher of reading. In the course of two years she had used all the sound combinations and the drills of a noted "system," but she had not followed the *order* of the "system" at all. The interest and need of the children had guided her in the selection of reading matter for the children. She had used the drills when they could serve the children's needs in the work they happened to be doing. It was in connection with the use of this same noted "system" that a little girl once annoyed the teacher by asking for water every few minutes. Finally, the exasper-

ated teacher sent her to the principal. "Why do you keep asking for water?" said the principal. "You cannot want it so often." "No, I don't," said the child, "but I don't want to say 'I see', 'I see', 'I see,' all day long, either."

When the children have mastered words enough to undertake to read in a printed book, they should have some practice in such reading, but no book should be followed in the order of its lessons. A selection should be made and the children allowed to read what the book has to say about the subject in hand. The lesson in this case may be "sight reading." If so, the children should not have the book until the time comes to read. They should then be distributed and the children told to read the "first story" silently. While this silent reading is going on, the children should be entirely free to ask the teacher for a word they cannot make out. After a moment or two, the teacher should ask for volunteers and then elect from these the one who is to read the story to the class. If the child fails to pronounce a word, it should, ordinarily, be given quickly by the teacher. If the manner of reading does not express the thought, the teacher should ask questions which will lead the child into the proper expression. There should be nothing said or done to give the child the impression that he is reading to be criticised. *His* motive should be to give pleasure or information.

The same lesson may be given after careful preparation. In this case, the teacher should select all the words which are new to the children and drill until they are fully in possession. She may then tell the story or have the children tell it and discuss it with them. Finally, the children read it.

It is always a mistake to undertake a reading lesson with a large number of children. They *cannot* attend while a great many read. The worst reading lesson imaginable is to have thirty or forty children stand in a line, reading in order and going over and over the same selection until every child has read. If there are as many as thirty children, they should be divided into three sections for reading purposes, two sections being given interesting seatwork, while the members of the third section read. The teacher can stand or sit in the midst of ten children clustered about her and can lead that number to enjoy having each other read. Groups of five children would be still

better. When the number exceeds ten, the reading is apt to degenerate into spiritless and weary repetition.

As the lessons proceed, the children should do a great deal of silent reading. This may have for its purpose mere pleasure, as in the reading of interesting stories; information, as in reading records, receipts, bulletins, newspapers; or careful study as in the preparation of certain lessons. In any case, the teacher should be constantly helping the children to correct interpretation of what they read. This may be done by discussions, reproductions, answers to questions and, sometimes, oral reading. Every child in the school, of whatever grade, should read in the hearing of the teacher two or three times a day. For this reason, the reading should not be confined to formal lessons, but should be done in connection with every lesson or piece of work undertaken. Problems in arithmetic, sentences in the language work, selections from the history and geography lessons, pieces of news from the paper, information about the garden, the home and the community interest, and many other things should be read by the children and not by the teacher.

In the advanced grades, the preparation for a reading lesson is not unlike that in the lower. The teacher tries to make sure that all the words can be pronounced, but she sends the children to the dictionary now, instead of telling them the words. She does very little with formal definitions of words, but does her best to see that the children get the thought of the sentences and paragraphs. The reading lesson should not be marred by spelling or defining. When the children begin to read, everything should be subordinated to the expression of the thought and, if, in spite of careful preparation, the children mispronounce, she should ignore it or tell the pronunciation quickly. Sometimes, the better plan is to ignore mistakes at the time, but quietly make a list of mispronounced words and drill upon them afterwards. If, however, the expression is bad, there should be careful effort to correct it.

Children are apt to be indolent and careless in the use of the lips and tongue in reading and should have careful training in this. Final consonants, such combinations as nd, nt, nel, ths, dths, ndths, ng, etc., should have careful attention. Daily drill for awhile is nearly always necessary. Exercises which require vigorous movement of the organs of speech are valuable. The

noted one, "Theophilus Thistle, the thistle sifter, sifted three thousand thistles through the thick of his thumb;" and "Peter Piper picked a peck of pickled peppers. Where is the peck of pickled peppers that Peter Piper picked?" are types. Others will suggest themselves to the teacher. They should be shaped so as to correct some special form of defective enunciation among the children taught. Children should be brought to a realization of the value of words and of *all the sounds* contained in the word and the slovenly habit of elision and of slurring words should be broken up, and in the children's mouths words should be "like coins newly issued from the mint," each with its own value and its own significance."

The guidance of the children in the selection of books is one of the duties of the teacher. The person who can discriminate between good and bad literature and who *loves* the former is fortunate, and the love of good literature is a great price for character building, a great resource in loneliness and a great solace in trouble.

It will readily be seen that the work of teaching reading cannot be properly done without a library. The child who is forced to read day after day from one reading book, will soon tire of it and dislike to read at all. Literary classics may now be had for five, ten and fifteen cents. The school should be liberally supplied with these and should use them freely for reading purposes. A few copies of such periodicals as will appeal to children and young people should be taken by the school and placed at the command of the children. They should be taught what to read in the daily newspapers and encouraged to read with reference to current events.

From the beginning of the reading work, dramatization will be found of immense value in increasing the interest of the children, helping them to understand the meaning of the literature and, especially, in forming habits of intelligent expression. In the work of dramatization, writing, spelling, language and composition are all necessary, and it brings about an integration of work which is a great economy of time and effort. The tiny children can dramatize The Three Bears, The Sleeping Beauty, Little Red Riding Hood and other classics. They should be allowed to make the dialogue themselves and, for the most part, to act spontaneously. The teacher should only suggest. Fourth

grade children can dramatize and act parts of the story of Ulysses, some King Arthur stories, and many Indian stories. The fifth and sixth grades should undertake John Smith and Pocahontas, John Alden and Priscilla, Rip Van Winkle, and other historical tales. The seventh and eighth can dramatize some of Tennyson's Idyls of the King and can learn and act scenes from Julius Caesar, The Merchant of Venice, and Midsummer Night's Dream.

When children are allowed to memorize, the teacher should see that the literature memorized is worth the expenditure of time and energy. It is a mistake to suppose that they cannot understand Shakespeare and Tennyson. Shakespeare is especially adapted to seventh and eighth grade children, the universality of his genius and his insight into human nature making him far more easily comprehended than many authors thought "light" enough for young people.

THE TEACHING OF WRITING.

By the State Supervisors.

Writing is not an end in itself. It is always a sad spectacle to see an expert penman who has no ideas of his own to write. On the other hand, it is a silly boast for a man to make, that he is too important to write well. It is the work of the common schools to strike the medium between these extremes. The schools have no call to produce the "chirographical artist;" and they have no excuse if they turn out men and women whose writing is too poor to be read. In the final result, three things should be aimed at—legibility, neatness and rapidity; but the greatest of these is legibility. All writing is meant to be read; and if it cannot be read, and read easily, there is no reason for the writing.

We learn to do by doing, has a very significant application in learning to write. The best way to learn to write is to write. Some guidance is, of course, necessary; but the main thing is to write.

In the modern school, the first writing a child does, is to copy words or draw them from the board. It is often a source of wonder to the onlooker that he does this so well. Whatever the explanation may be, the fact is that even in the first few days of school life usually he can do it quite well. In the first months, the teacher should occasionally write words in the presence of the children, erase them quickly, and then have them try to write them again. For the reason that the small muscles which function the small movements of the fingers are not yet developed, the childrens' first writing should be quite large and should be done mainly on the board so as to get large arm movements. At this stage, after the word has been drawn and re-drawn until its image is fairly correct in the child's mind, the teacher frequently has the children "write in the air." That is, they take large arm movements, forming the letters of the word, pencil or crayon in hand, but with no surface on which to write. After making a word in this way several times, they will succeed in writing it on the board far better than they could before the exercise. It would be a great mistake at this stage to guide the child's hand or to allow him to trace. The time for that is much later. Sometimes the

teacher sees that one letter is difficult for a particular child; she simply says, "Look," and makes it several times in the presence of the child, or has him write it in the air several times.

The things to be most avoided in teaching writing are learning-to-write-quick methods. The child has no immediate or urgent need for writing in any artistic way. If he is allowed to have regular practice under careful guidance and supervision he will write soon enough, and well enough for all practical purposes. His muscles must have time to grow and to get co-ordinated. The fine muscles must come into use, and the child must have something which he wants to record or tell in writing before he writes well. In the meantime, there are many other things he should be doing with his hands in order to help in the co-ordination of muscles. Drawing is about as valuable for the little child as writing, and the exercise he gets from this will react to the advantage of the writing nearly as much as the ordinary drill in penmanship. In other words, the child will write better, if part of the time some teachers give to writing is spent in drawing. Paper cutting, pasting, clay modeling, building, painting, and many other forms of hand work are valuable adjuncts of the writing, inasmuch as they help in the co-ordination of the muscles, especially of the muscles of the hand and eye, and in the control of the hand by the mind. When the child enters school, he has very few ideas which are worth recording, and he will far better employ his time in getting new ideas than in the mastering of any tools. Nevertheless, he ought to write several times a day. Indeed, the first and second grades should have some writing in connection with every lesson.

These general observations may need some modifications for the boy or girl who begins to learn to write at a more advanced age, or for the boy or girl (so common in our rural schools) who has grown into the teens and can only scribble. These young folk should be reached through their pride; they should be shown that they have something in their heads worth saying, and made to feel that it is unworthy of them to scrawl. The motive being given, the methods should be adapted to their more developed, though still untrained, muscles. They should have less drawing of words and more exercise to develop rhythm and flow of movement.

Copybooks are good or bad in teaching writing, according as the teacher uses or misuses them. As in reading, the child should have a motive in his work; and this motive should not be one forced upon him by the adult. The larger part of the writing which he does should be in the way of making records which are to be used later on, writing for his mates to read, or writing letters to persons at a distance or writing stories, which are to be read by the class. When he sees that he cannot do this well, he will be entirely willing to practice some exercises which will help him to write better, and for a few minutes at a time may have the various writing movements prescribed by the "system." The use of these should immediately appear in their incorporation into his writing when he has something to write. Taken then, as a mere drill, the copybook may be valuable. If it furnishes all the writing the child does, it is not a great help. Many a child has written, "God is omnipotent, omniscient and omnipresent" in a style which rivaled the Spencerian model which he has been imitating, but has scrawled miserably in writing anything of his own. Something analogous to this will always happen when the copybook writing is all that is done.

In short, as has been said, the child should write in connection with his lesson and other work many times a day, using the writing as an instrument of record and communication just as he will always use it. He should have a formal exercise to help him to write better, whether it be on the board, on practice sheets or in the copybook, at least once a day. This should have a regular place on the daily program, should continue for at least fifteen minutes and as a rule the teacher will prefer to have the formal writing exercise just before the morning recess.

It is not the function of this article to decide what are the comparative merits of the vertical, the slant, the medial or other forms of handwriting. Each has its advantages, and each its disadvantages. The educational authorities usually require the use of some particular book. It would probably be better, however, not to impose any one of these forms arbitrarily upon any child, but to leave him to express himself in his writing as he should in his other handiwork, insisting only upon legibility, neatness, and, when the time comes, rapidity. The first two should exist from the beginning of the work, and there should

be no "forgiveness of sins" with regard to their violations. The last should have much attention in the upper classes, and there should be a short daily practice for this purpose. The final outcome should be a hand that is "characteristic" of the writer. This quality may, as a matter of fact, develop itself through any of the systems, and is perfectly consistent with legibility, neatness and rapidity.

ENGLISH GRAMMAR.

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"Consider for a moment what grammar is. It is the most elementary part of logic. It is the beginning of the analysis of the thinking process. The principles and rules of grammar are the means by which the forms of language are made to correspond with the universal forms of thought.

"The distinctions between the various parts of speech, between the cases of nouns, the modes and tenses of verbs, the functions of participles, are distinctions in thought, not merely in words."—*John Stuart Mill.*

"No law of the grammarian is absolute, for it may be repealed when brought before the court of last resort, made up of our best speakers and approved authors."—*George Campbell* (*Philosophy of Rhet.*)

The starting point of the instruction in English Grammar should be the Simple Sentence. From the idea of the sentence as a whole the mind naturally passes to the elements composing the Sentence and then to the properties of the elements themselves.

THE SENTENCE.

A Sentence is a combination of words so connected as to express a complete thought. By "to express a complete thought" is meant that (a) something is said (b) about something.

Sentences differ in the form they take to express a thought:

(a) A *Declarative Sentence* is in the form of a statement, as: April the 26th is Memorial Day.

(b) An *Interrogative Sentence* is one that is in the form of a question, as: Can we ever forget the boys of the Old South?

(c) An *Imperative Sentence* is in the form of an entreaty or command, as: Listen to the charge of Stuart and his horsemen.

(Explain to the class how any one of these sentences may be put in the form of an exclamation, yet remain declarative, interrogative, or imperative.)

Every sentence must contain two essential parts: (a) the idea about which we think or speak, and (b) what is thought or said about that idea. "Time flies;" in this sentence, the idea "time" about which we speak is the Subject; what we say about "time"

—that it "flies"—is the Predicate. In this manner, the teacher should have the pupil analyze a great number of sentences—until the pupil clearly understands that the sentence must contain two essential parts.

The *Subject* names that of which the Predicate says something.

The *Predicate* is that which is said of the subject by a finite verb. Without the "finite verb" we cannot have a sentence, whatever other words we may use. "Winter having come," "The Chancellor being sick," "Houses to rent,"—not one of these expressions is a sentence. If we insert "finite verb" we will then have three complete sentences, as: Winter has come; The Chancellor is sick; Houses are to rent. Drill on this definition of the sentence until the pupil clearly understands that it is impossible to have a sentence without a finite verb.

What is a finite verb? If we say "I laugh" the action expressed by the verb is limited in three ways: first, it is limited as regards "person"—it is "I" that laugh, not he; second, it is limited as regards "time"—when the laughing took place—not in the past, or in the future, but at the present time; third, it is limited as regards "number"—it is one person who laughs. If the action or state of the verb is restricted by the three limitations of person, time, and number, then the verb is finite. "To laugh" expresses merely the idea of the action, and does not denote that the action is done by one person or more than one person, or by any particular agent, or at any definite time. "To laugh," therefore, is the verbal (in-finite) form, and cannot form the verb of the sentence.

It has been our experience that few pupils understand the definition of a finite verb. We believe that it is time well spent, if the teacher will drill, drill, drill on this particular idea.

The Predicate must always be a Finite Verb or a Finite Verb and *the words connected with it.*

Exercise: Point out the Finite Verb in fifty sentences. Have the pupil give reason for his answer.

Exercise: Separate twenty sentences into Subject and Predicate. Have pupil give reason for his answer.

A *Simple Sentence* is a sentence with only one finite verb. (Stress this definition.) The elements of a simple sentence are

Subject,
Predicate,
Attribute,
Object,
Complement,
Modifier,
Independent Element.

Sentence = Subject + Predicate.

I

Subject: If we name a thing we must use a name word or noun; hence the subject must always be a noun or some word or words equivalent to a noun.

Exercise: Drill carefully on the definition of a subject, and have the pupil find out what the subject may be. After a thorough drill has been held, the work may be summarized as follows:

WHAT THE SUBJECT MAY BE.

Noun:	*Jackson* was killed by his own men.
Pronoun:	*They* made Jefferson Davis President.
Adjective:	The *brave* deserve the fair.
Adverb:	*Now* is the accepted time.
Gerund:	*Playing* football is hard work.
Infinitive:	*To see* is to believe.
Phrase:	*Too late, too late,* are sad words.
Clause:	(This will be explained under complex sentences.)

II

Attribute or Adjective: "The word or words conjoined with the noun or noun-equivalent in forming the Subject, adjuncts of the noun, are called attributes or adjectives, because they qualify or attribute something to the thing named." (Dalgleish.)

Exercise: Drill on the Attributes of the Subject. Have pupils bring a large number of original sentences to the class, illustrating the attribute of the subject. Drill until the pupil understands that the attribute can only qualify the noun or noun equivalent.

WHAT THE ATTRIBUTE (ADJECTIVE) MAY BE.

Noun:	A *gold* crown was put on his head.
Pronoun:	*My* days are numbered.
Adjective:	The *great* commander gave the orders.

Prepositional Phrase: The crown *of thorns* has been put on labor.

Infinitive: Ability *to please* is rare.

Participle: The girl *singing* in the choir is my sister.

Clause: (To be explained under complex sentences.)

Note—If sufficient drill and original exercises have been given the pupil, he should understand the subject and its attributes.

III

Predicate: The Predicate is that which is said of the subject by the finite verb. The Predicate is always the finite verb, or the finite verb and the *words connected with it.*

Predicates are of four kinds:

A complete intransitive verb.

An incomplete intransitive verb *plus* subjective complement.

A transitive verb *plus* direct object.

A transitive verb *plus* direct object *plus* objective complement.

Verb: The word *verb* is from the Latin *verbum* which means *the word*—the verb. No sentence may be formed without the word—the verb.

Classification of verbs: Verbs are variously classified according to the basis of division. If divided on the basis of *use,* we have principal (notional) and auxiliary; if divided on the basis of *form,* we have regular and irregular; if divided on the basis of *relation to the subject,* we have finite and verbal; if on the basis of the *relation to object,* we have transitive and intransitive.

Transitive verb: A transitive verb is a verb with two substantives, a subject and an object—the two meaning *different* things. —an agent and a non-agent.

Intransitive verb: An intransitive verb is either complete in itself, or may be made complete, without the use of an *object,* but by other words. The word or group of words that make an intransitive verb complete is called a Subjective Complement.

The *object* of a transitive verb is in the *objective case* and is always a noun or a noun-equivalent. The Subjective Complement of an intransitive verb is in the Nominative case and is either a noun or adjective, or some word, or phrase, or clause as its equivalent.

IV

Object. The direct object of a transitive verb is so familiar a sentence-element that it makes itself understood without much special investigation. Every transitive verb requires a direct object. The *object* of a transitive verb is in the *objective case* and is always a *noun* or *noun-equivalent.*

In the sentence,

The pen has shaken nations,

we have two nouns, "pen" and "nations," the two denoting *different* things; hence, we have a *subject* and an *object.*

WHAT THE OBJECT MAY BE.

Noun:	We love *America.*
Pronoun:	God loves *us.*
Adjective:	We pity the *poor.*
Infinitive:	We like *to see* every man do his duty.
Gerund:	We enjoy *sailing* on the river.
Phrase:	We heard his last *"good-bye, old comrade."*
Clause:	(This will be explained under complex sentences.)

Exercise: Have pupils bring to the class twenty-five sentences, illustrating the use of the noun or noun equivalent as the direct object.

Exercise: Have pupils construct two tables, illustrating "what the subject may be" and "what the object may be."

Indirect Object. "An *Indirect Object* represents that which is indirectly affected by the act expressed by a verb or verbal. Its relation to the verb or verbal can usually be expressed by "to" or "for." The indirect object is a special kind of adverbial objective."—Gowdy.

Verbs denoting *"addition"* (give, teach, tell, provide, and the like, as allow, buy, grant, promise, write, send, offer, etc.) take an indirect object denoting the person "to" or "for" whom something is done.

The *indirect object* is always a *noun* or *noun-equivalent* and in the objective case.

In the sentence,

He taught *him* geometry,

we have the noun "geometry," which represents the thing directly affected by the action, and therefore called the direct object; and

also the pronoun "him," which represents the person indirectly affected by the action, and therefore called the indirect object.

In English, the form with "to" should be distinguished from other phrases with "to" which are *not* indirect objects.

In this sentence

They sent him to Athens,

"to Athens" is a modifier of the verb, telling how far the person was sent. Adverb modifiers of this kind *always require* the "to."

Cognate Object. Some intransitive verbs take an object of meaning *similar* to that of the verb, which is called the *Cognate object,* and is in the objective case. Cognate means "allied" or "related" in meaning to the verb itself.

In the sentences,

He has lived a long life,
The boys ran a race,
I slept a deep sleep,
Men shall have dreams,

the nouns "life," "race," "sleep," "dreams," are called cognate objects because they represent objects coexistent with the action expressed by the verbs.

Exercise: Have pupils construct ten sentences, illustrating the use of the indirect object.

Exercise: Have pupils construct ten sentences, illustrating the use of the cognate object.

Exercise: Have pupils construct fifteen sentences, illustrating the use of (a) the direct object, (b) the indirect object, (c) the cognate object.

V

Complements are of two kinds: Subjective and Objective. When the word completes the meaning of the verb and refers to the subject, it is called the *Subjective Complement;* when it completes the meaning of the verb and refers to the object, it is called the *Objective Complement.*

If the Subjective Complement is a noun, it and the subject refer to the same thing *and have the same case;* if the Subjective Complement is an adjective, it represents an attribute or quality of the subject.

The soldiers plundered the city.
Edward is King.

in the first sentence we have two nouns, "soldiers" and "city," the two denoting *different things*; hence we have a *subject* and an *object.* In the second sentence we have two nouns "Edward" and "King," the two denoting the *same thing;* hence a *subject* and a *subjective complement.*

Compare sentences:

Henry is Captain,

(Two nouns denoting the same thing—subject and subjective complement.)

John killed the dog,

(Two nouns denoting different things—subject and object.)

Maddox was elected Mayor,

(Two nouns denoting the same thing—subject and subjective complement.)

Gordon charged the forces,

(Two nouns denoting different things—subject and object.)

Exercise: Have pupils bring to the class twenty-five (25) sentences illustrating the use of the *adjective* as subjective complement.

Exercise: Have the pupils bring to the class twenty-five (25) sentences illustrating the use of the noun as object and as subjective complement. Drill on this exercise until the pupil sees the distinction between object and complement.

Exercise: Have pupils discover that other words or parts of speech may be used as subjective complement. Have them bring sentences to the class, illustrating this phase of the subject.

Exercise: Drill on this subject until pupils discover (1) what kinds of verbs take a subjective complement, and (2) what the subjective complement may be.

What the Subjective Complement May Be.

Noun: Smith is Governor.

(Two nouns "Smith" and "Governor" denoting the *same* person—subject and subjective complement.)

Pronoun: It is I—your friend.

(Two pronouns—denoting the *same* person—hence a subject and a subjective complement.)

Adjective: Peabody is generous and wise.

(The adjectives "generous" and "wise" denote a quality or attribute of the subject—hence we have a subject and a subjective complement.)

Phrase: The aeroplane is in sight.

(Phrases are used because we have no equivalent adjective. In this sentence "in sight" is nearly equal to "visible"—hence the phrase " in sight" denotes an attribute of "aeroplane"—subject and subjective complement.)

Infinitive: To see is *to believe*.

(The identity of the two ideas "to see" and "to believe"—subject and subjective complement.)

Gerund: The American game is making money.

(Here we have the identity of two ideas "game" and "making money"—subject and subjective complement.)

Adverb: The moon is *down*; (b) the player is *out*.

(In these sentences the adverbs "down" and "out" complete the verbs and are complements, and as they denote an attribute of the subject are subjective complements—*Whitney*.)

It is clearly seen that the subjective complement has a double office, completing the verb and modifying the subject, or denoting identity with the subject.

Exercise: Have pupils drill on this exercise until it is clearly understood. Have them bring a great number of original sentences, illustrating what the subjective complement may be. Do not be satisfied with one sentence that illustrates the point.

Exercise: Only a limited number of intransitive verbs require a subjective complement. Have pupils make a list of these intransitive verbs that require the subjective complement—be, become, appear, stand, walk, and the passive forms of make, call, ask, create, name, etc.

VI

Objective Complement: A word that helps a verb to express action and at the same time denotes an attribute of the *object*, resulting from the action, is an objective complement. Objective complements complete the predicate and describe the *object*.—*Buehler*.

Let us state this from another viewpoint: When a transitive verb is followed by *two* words, the one naming the thing acted

upon, and the other denoting an attribute of the object, we have both a direct object and also an objective complement.

They made Edward King.

In this sentence there is the *direct object* "Edward" and the *objective complement* "King;" "Edward" represents the person acted upon, and "King" denotes an attribute of the direct object "Edward."

The predicate verb and the objective complement are so closely related that the meaning of the two words may be expressed by one word:

They made-king crowned Edward. He made-sharp sharpened the axe.

(This construction must be distinguished from the appositive use of the adjective. In the sentence: We found him asleep—"asleep" is an appositive adjective of "him," and not an objective complement.)

As a rule the objective complement follows a verb which "made" can be substituted for.

What the Objective Complement May Be.

Noun: The citizens appointed him *clerk.*
Adjective: They painted the house *yellow.*
Participle: I can see him *rushing* the centre.
Gerund: Do you consider that *doing me a favor?*
Phrase: He rendered my sword *of no value* to me.
Infinitive: He made Edward *carry* the message.

Exercise: Have pupils construct sentences with the verbs that usually are followed by both the direct object and the objective complement, as: name, render, elect, appoint, think, consider, regard, call, feel, find, prove, leave, etc.

Exercise: Have pupils construct sentences to show clearly the distinction between the objective complement and the appositive adjective.

VII

Modifier: The word or group of words used to qualify a noun or its equivalent is an adjective or equivalent (attribute); the word or group of words used to qualify a verb, adjective or adverb is an adverb or equivalent (modifier).

What the Modifier May Be.

Noun: We walked *five miles*.
(This answers the question "how far" and is equivalent to an adverb in modifying the predicate.)
Adjective: *Gradual* sinks the ship.
(Allowable in poetry.)
Adverb: He fought *bravely*.
Prepositional Phrase: They went to *Atlanta*.
Infinitive: They came *to see* us.
Participle: *Winter being over,* Caesar moved his army.

In this discussion, the word qualifying a noun or its equivalent is called an attribute, and the word qualifying the verb, adjective, or adverb is called the modifier.

Exercise: Construct sentences illustrating the use of modifiers. Have pupils bring to the class original sentences showing what the modifier may be.

VIII

Independent Elements.

By *independent elements* we mean those words or phrases that have no grammatical relation with the other words in the sentence; that is, they do not enter into the structure of the sentence.

Noun (Direct address): *John,* the door is open.
Exclamation: *The enemy*—are they upon us?
Noun with a participle: *The game being over,* we left for home.
Pleonasm: The skies *they* were ashen and sober.
Infinitive: *To make* a long story short, I confess the deed.
Interjection: *Hurrah!* we have a holiday on Monday.

We have now discussed all the elements that constitute a simple sentence. It would be wise for the teacher to spend some time on the simple sentence as a whole. Be sure the simple sentence is mastered before undertaking to drill the pupil on the complex or compound sentence.

The Complex Sentence.

The complex sentence differs from the simple sentence in having two or more statements instead of one. The simple sentence

can contain only one statement, for it can have but one finite verb. If the sentence contains more than one finite verb, it cannot be a simple sentence, but must be either a complex or a compound sentence.

The characteristic feature of the complex sentence is the *clause*. The clause is a group of words containing a subject and a predicate and used to do the work of a single part of speech. Clauses are of three kinds: Noun, adjective, and adverb.

A complex Sentence is a sentence that contains one *principal member* and *one or more clauses*. In the sentence, "The article that you requested me to write is on the table," we have the principal statement, "the article is on the table," and the clause, "that you requested me to write," and therefore a complex sentence. The clause, "that you requested me to write," has a subject and predicate of its own, yet it is incomplete apart from its connection with the noun, "the article." In this connection we see that the clause, "that you requested me to write," defines the meaning of the subject ("the article") of the principal member of the sentence. In the sentence, "I am going, when the bell rings," we have a principal statement, "I am going," and a clause, "when the bell rings"—hence a complex statement. In this sentence the clause, "when the bell rings," simply completes the meaning of the verb in the principal member.

I.

An adjective clause is a clause that describes or defines a noun or pronoun as an adjective might do. In the sentence, "Brown is the man that was chosen," we have the clause, "that was chosen," clearly defining the noun "man;" in other words, the clause, "that was chosen," performs the office of the adjective—hence we have an adjective clause.

The adjective clause is introduced by either (1) a relative pronoun (who, which, what, that, but, as) or (2) a subordinating conjunction (when, where, why, etc.). These words connect the adjective clause with their antecedents.

In the sentence, "The soul is dead that slumbers," "that slumbers" is an adjective clause. It is introduced by the relative pronoun "that." In the sentence, "I remember the place where Jackson is buried," the clause, "where Jackson is buried," is an adjective clause. It is introduced by the subordinate conjunction

"where." In the first sentence the antecedent of "that" is man; in the second sentence the antecedent of "where" is the word of kindred meaning, "place."

If the antecedent is *expressed,* the clause is always an adjective clause.

II

An adverb clause is a clause that goes with an adjective, or adverb, or verb, defining its meaning as regards time, place, manner, degree, comparison, purpose, cause, condition, concession, result.

Time:	When they arrive, we will keep them here.
Place:	You will find it where I left it.
Manner:	We work these examples as we have been taught.
Degree:	The amount is not so large as I thought it was.
Comparison:	The more a man knows the less he will boast.
Purpose:	He practices daily that he may play on the team.
Cause:	He rejoiced because he won the cup.
Condition:	If we do not fail, we shall succeed.
Concession:	I will trust him, though he slay me.
Result:	He has worked so hard that he has lost his health.

III

A noun clause (substantive) is a clause that may perform the office or function of a noun. It may be used as:

Subject:	Where Moses is buried is unknown.
Subjective Complement:	This is what I demand.
Object:	She told how old she was.
Object of Preposition:	At last we came to where the ways parted.
Appositive:	The news that Smith was elected senator spread rapidly.

IV

Noun clauses and adjective clauses are alike in form. In these two sentences,

(1) I know where Stonewall Jackson is buried,

(2) I know the place where Stonewall Jackson is buried, we have illustrated both the noun clause and the adjective clause. Wherein is the difference? In the first sentence, "where Jackson is buried" is clearly the object of the principal verb "know" and is used as a noun; in the second sentence "where Jackson is buried" defines its kindred antecedent, the "place"—hence we have an adjective clause. It is clear, therefore, that if the antecedent is expressed we have an adjective clause; but if the antecedent is suppressed we have a noun clause. In this way it is easy to tell the noun clause from the adjective clause.

V

Again adjective and adverb clauses are easily recognized, since they have no complete meaning in themselves apart from the principal member to which they are attached.

In the sentences,

(1) Iago was jealous because Othello advanced Cassio,

(2) The only vice that cannot be forgiven is hypocrisy, we have illustrated the use of both the adverb and the adjective clause. Neither the clause, "because Othello advanced Cassio," nor the clause, "that cannot be forgiven," has a complete meaning in itself apart from the principal member to which it belongs —hence we have an adverb and an adjective clause. The clause, "because Othello advanced Cassio," completes the meaning of "was jealous"; and the clause, "that cannot be forgiven," defines "hypocrisy."

Exercise: Drill on the three kinds of clauses.

Exercise: Treat the whole clause as an element of the complex sentence, telling whether it is a noun, adjective, or adverb clause.

Exercise: Treat the clause by itself as a simple sentence, and parse each word it contains as an element of that simple sentence.

The Compound Sentence.

A compound sentence is one consisting of two simple sentences or two or more complex sentences joined by a coordinating conjunction. The typical coordinating conjunctions are:

Copulative: And (words with equivalent meaning—both, also, too).

Alternative: Either—or; neither—nor; etc.

Adversative: But (yet, however, notwithstanding, etc.).

Illative: Therefore (for, hence, etc.).

The four typical coordinating conjunctions uniting words, phrases, clauses, and sentences of equal rank are "and," "or," "but," "therefore"; all conjunctions having the equivalent value of these may be considered as coordinating conjunctions. "And" is said to be copulative because it merely adds something to what has been said; "or" is said to be alternative because it implies that there is a choice to be made; "but" is said to be adversative because it usually introduces something adverse or opposite to what has already been said; "therefore" is said to be illative because the idea expressed is a natural inference from what is previously expressed.

Illustrations of the four typical kinds:

Copulative: The world is a wheel *and* it will come around all right.

Alternative: You must pay the money, *or* I will dismiss you.

Adversative: The man cannot speak *but* he makes signs.

Illative: The season was dry, *hence* the crop failed.

Verbals.

As the infinitive, participle, and gerund present perplexities to the beginner, it is deemed wise to add, as a conclusion to this article, a short discussion of these uninflected forms of the verb —*the verbals.*

The only forms of inflection which the verb has in English are the indicative, the subjunctive, and the imperative modes. These are the finite forms of the verb.

"But there are certain derivative words, made from almost every verb in the language, which are so important, and so much used, and used in such ways, that they are always given along with inflected forms, as part of the conjugation of the verb, although they are not verbs at all, because they do not really assert anything; they are only nouns and adjectives."—*Whitney.*

The verbal forms are:

The Infinitive.

The Participle.

The Gerund.

"In point of form the Infinitive is the simple unchanged root-

form of the verb. The term "infinitive mood" only denotes the particular relation of the verb to the other words in the sentence. It is called Infinitive when it follows an auxiliary (except "ought") —bid, make, dare—and verbs of perception like see, hear, feel, etc., as— they may come, they made him promise, we saw the moon rise. We call this the primary infinitive. When preceded by the little word "to" we may in like manner call it the secondary infinitive."—*Ramsay.*

The Infinitive is that form of the verb which is not limited by person, number, or time. It is the verb itself. The word "to" is not an essential part of the infinitive.

There are two infinitives: The Present and the Perfect.

	Active	*Passive*
Present:	"to love"	"to be loved"
Perfect:	"to have loved"	"to have been loved."

The infinitive is like the verb in that it can govern an object and take adverbial modifiers; it is like the noun in that it may be used as:

Subject: *To study* faithfully is our duty.

Object: We have decided *to go* tomorrow.

Appositive: It is good for us *to be* there.

Subjective Complement: For me to live is *to die.*

Object of Preposition: There is nothing to do except *to obey.*

Objective Complement: I expect John *to make* progress.

The Infinitive may also be used as an adjective, as: Ability to please is rare. In this sentence the infinitive "to please" qualifies the noun "ability."

The Infinitive may also be used as an adverb, as:

We are anxious to proceed.

(The infiinitive "to proceed" modifies the adjective "anxious."

They came to visit us.

("To visit" modifies "came" and denotes purpose.)

Be so kind as to inform us.

("To inform" modifies "came" and denotes result.)

The Infinitive may also be used independently, as: To tell the truth, I did not hear you call me.

From the preceding discussion it is seen that the Infinitive may be used, as:

1. A noun.
2. An adjective.
3. An adverb.
4. Independently.

The Participle.

There are two Participles. One of these, formed in a variety of ways, is called the Perfect Participle; the other, ending always in "ing," is called the Present Participle. The former has the function of an adjective; the latter has two functions: (a) that of an adjective and (b) that of a verb. In the sentence, "I heard the birds singing their sweet songs," "singing" is an adjective qualifying "birds," and a verb in its relation to the object, "their sweet songs"; inasmuch as the word "singing" completes the two functions—that of an adjective and that of a verb—it is a participle.

In the sentences:

Those singing birds are mocking-birds,

The birds singing their sweet songs are mocking-birds,

we have illustrated the use of the adjective and the use of the participle. In the first sentence, "singing" qualifies birds just as the adjective "musical" (or "song") might do. In this sentence we have used an adjective. (This construction is called by some grammarians the "Participial adjective.") In the second sentence we have illustrated the use of the participle. "Singing" qualifies birds and is an adjective; it governs "their sweet songs" and is a verb.

Gerund.

The Gerund is a noun formed from a verb by adding "ing." It has two functions: that of noun and that of verb. In the sentence, "Catching fish is fine sport," the word "catching" is a noun and subject of the verb "is," and at the same time takes "fish" as its direct object. In the sentences

Playing ball is pleasant work,

Playing is pleasant work,

we have illustrated the use of the Gerund and the use of the Verbal noun. In the first sentence, "playing" is a Gerund because it fulfils the requirements of the definition of a Gerund; that is, it is the subject of the verb "is" and at the same time it governs

"ball." To be a Gerund it must perform two functions—*that of a noun and that of a verb.* In the second sentence "playing" is simply a verbal noun. It names an action but does not govern.

The uses of the Gerund:

Subject: Climbing the Alps is a difficult task.

Subjective Complement: The American game is making money.

Object: I remember being told to avoid bad company.

Object of Preposition: He was punished for robbing the nest.

Objective Complement: Does the child consider that *doing* its father a favor?

(This Gerund construction is called by some grammarians the Infinitive in "ing," by others the "Participial Infinitive.")

The Verbal Noun.

The Verbal Noun is derived from a verb by the addition of "ing" to the root-form of the verb. A verbal noun cannot govern a word, but is only the name of an action or state.

Reading is pleasant. In this sentence "reading" does not govern any word, it simply names the action.

Gerund, Participle, and Verbal Noun must be carefully distinguished.

The Verbal Noun simply names the action or state.

The Gerund has two functions—noun and verb.

The Participle has two functions—adjective and verb.

The *Gerund and the Present Participle* must be carefully distinguished. Each has two uses: the former, a noun and verb; the latter, an adjective and verb.

The *Gerund and the Verbal Noun* must be distinguished. The former has two uses, that of the noun and verb; the latter, that of the noun.

The *Present Participle and the Adjective in "ing"* must be carefully distinguished. The former has two uses, that of adjective and verb; the latter, only that of an adjective.

Summary of the "ing" Forms.

Adjective: The *running* stream furnishes us with pure water.

(By some grammarians this is called the Participial Adjective.)

Participle: I saw a man *walking* in the garden.

(Here "walking" is used as an adjective and as a verb. As an adjective it qualifies "man," and as a verb it is modified by the adverbial phrase, "in the garden."

Verbal Noun: *Working* is honorable.

(Here "working" is a noun. It simply names the action, but does not govern.) Called by some grammarians the Participial Noun.

Gerund: *Running* a pump is very difficult work.

(Here "running" is used as a noun and as an adjective. It is the subject of the verb "is" and governs the noun "pump.") This construction is called by some grammarians the Infinitive in "ing," and by some the Participial Infinitive.

Part of the Verb: "The present participle form of the verb is used in forming the progressive tenses of the verb, as: I am giving. In this expression it is seen that the form "giving" is equivalent to "liberal" or "generous"; hence in the expression, "I am giving," the form "giving" is an adjective used subjectively."

In the preparation of this article many grammars, of course, have been consulted, and valuable hints have been derived from one and another. I feel especially indebted to Whitney, Dalgleish and Meiklejohn.

GEOGRAPHY.

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I. THE NATURE OF GEOGRAPHY.

Geography treats of:

1. The conception of the earth in space.
2. The shape, size and motions of the earth.
3. The form and structure of the earth's surface.
4. The geographic forces of heat, cold, light, etc.
5. The geographic agents of air, water, inorganic and organic matter.
6. The advancement and spread of all forms of life growth.
7. The industrial, political and social life of mankind.

As man is the most important phase of life development, all geography teaching should lead to an understanding of his needs, his activities and his growth.

Geography is essentially a study of relationships between the earth and its inhabitants: as such it may be divided for convenience into:

1. Physiography: the study of inorganic environment as related to the earth's inhabitants.
2. Ontography: the study of the adjustment to environment by the inhabitants.

McMurry well says, "The study of the earth alone, its phenomena and forces, its vegetation and animals, its rocks and atmosphere, is natural science pure and simple. The study of man in his work and progress, his struggles and representative deeds, is history. The study of the earth as related to man is geography."

Geography must take into account:

1. The forces that have made and shaped the earth's surface.
2. The present condition of the earth's surface as affected by the atmosphere, water, and life growths.
3. The responses that obtain between the inorganic and organic worlds.

4. The demands of mankind and the uses made of environment to supply these demands.

Geography will correlate closely with all the sciences, for to all sciences it will go for its material. In this way geography will overlap physics, chemistry, biology, meteorology, astronomy, etc., for each of these will be contributing knowledge to help in a better and fuller understanding of earth structure and earth relationships. Geography becomes a science only when these various items of information that it draws from the other sciences are closely articulated for a geographic purpose: whenever a topic becomes purely biological or historical it ceases to be geographic.

In its broadest sense, geography deals with the relations that exist between earth conditions and life; hence we arrive at two good definitions:

1. Geography is the study of the earth in its relationship to man, and, better still,
2. Geography is the study of the earth as an expression of life.

As geography is a study of relationships it has to do fundamentally with:

1. Controls, those elements of environment that influence the trend of life growth; and
2. Responses, those characteristics of life growth that are the results of such controls.

The principal geographic controls are:

1. Temperature.
2. Moisture.
3. Soil.
4. Atmosphere.
5. Organic.
6. Topographic.
7. Human and social.

1. Merriam in his "Geographic Distribution of Life in North America" says: "It is now pretty generally conceded that temperature and humidity are the chief factors governing the distribution of life, and that temperature is more potent than humidity."

Three factors have influenced the spread of mankind in the past: temperature, moisture and soil. Of these, man

has mastered the last two to a large degree, the first he has been unable to control to any marked extent. Where the temperature falls below 32 degrees Fahrenheit for any considerable portion of the year, plant growth is prohibited and animal life disappears. The tundras sections of the earth are examples of this condition. Variations of temperature have caused responses that limit areas to certain life growths. Stature, color and morals are responses in a large degree to temperature.

2. Natural agriculture cannot take place with a rainfall of less than 20 inches annually. Barren and desert regions are found in areas having an annual average of less than ten inches. Where the rainfall exceeds sixty inches annually, vegetation is noted for its luxuriance and size (examples, the sequoias and red firs of California and Washington). The nomadic habits of the Arabs are a response to the arid condition of their country.

3. Soil qualities often determine the distribution of life and of industries, due to the plant growths indigenous to such soils. Lime and phosphate rocks yield the most fertile soils, while resistant sandstones are negative in their controls.

4. Prevailing winds exercise a potent influence upon the vegetation of a section or area. Winds that blow upon a west coast are moisture laden in the temperate latitudes, while those that blow from an east coast are dry and cold. Static air is more or less of a negative control. Soils are changed and often transported by the action of the winds. The wheat fields of the Dakotas owe their moisture to the western cyclonic winds.

5. The continuous warfare between the various plant families and between plants and animals becomes a control. The establishing of certain plant growths has defined the habitat of animals feeding upon them. The presence of the oyster in certain seaboard localities, the abundance of fish along the New England coast, are due to the quantities of food that these animals are able to find at such places.

6. Islands, cliffs, mountains and other forms of topography have their own special plant and animal growths. Great altitudes, aided by temperature, moisture and atmospheric pressure, form excellent barriers to the spread of plants and ani-

mals. A change in earth structure (diastrophism) has originated new forms or species.

7. Man continually acts as a control over his environment through his needs and his ability to reason. By means of roads, waterways, telegraphs, etc., man has evinced his mastery over environmental influences. By combining and developing he has originated many new forms of life; by selecting and eliminating he has bettered his mode of living.

II. Phases of Geographic Study.

The accepted phases of geographical study are the following (report of the committee of ten):

1. Observational.
2. Representative.
3. Descriptive.
4. Rational.

to which Mr. Sutherland adds

5. Social.

These divisions do not always differentiate themselves, and the social phase parallels the other four. The order of the successive phases has been based largely upon the psychological adjustment of the child's mind and are to be used as a guide for the teacher to logical progress in geographic work.

1. Observational geography. This may be termed Home Geography in the lower grades, although a great deal of advanced geography work should be observational. Introduction to the formal study of geography should be made through Nature Study. First hand information is always forcible and should be encouraged at all times. Perception, imagination and memory are all trained in observational work. Basic ideas are formed and superstructures erected from a personal communion with nature and nature's laws. Two of the most important results of observation are concreteness and accuracy. Observational geography implies a quickened sense perception upon the part of the pupil and an active directive skill upon the part of the teacher.

2. Representative geography. This is a form of expression by means of established geographic symbols. Observational geography is oral and the pupil relies largely upon the

teacher for guidance. Representative geography leads to an interpretation of maps and text books upon the part of the pupil alone. Whatever symbols are used, maps, the sand-table, text books, etc., they should carefully follow concrete ideas. Representative geography should classify the results of observational geography, should make the pupil familiar with geographic interpretations and should lead to descriptive geography.

3. Descriptive geography. This is the adaptation of geographic symbols to the mass of geographic knowledge that the student has accumulated. Descriptive geography is largely creative. As the student has little opportunity to obtain knowledge of the world at first hand, he has to depend upon pictures, books of travel, gazetteers, maps, charts, etc., and unless care is taken his ideas are apt to become too abstract. The gathering of data, the drawing of conclusions and the forming of mental pictures are within the province of descriptive geography.

4. Rational geography. This implies an active reasoning power, and "the pupil should not be burdened with an explanation which he cannot comprehend." Rational geography has to do with causal relationships. The comparison and relation of facts from which general principles may be deduced is the highest form of rational geography. Industrial geography exemplifies the ways in which man has controlled forces and secured materials for his daily needs; physiography explains causal relations between productive areas and earth structure. Geography as a science is valuable to us in just so far as it explains natural causes.

5. Social geography. This phase permeates all of the other phases of geographic study as man and his social activities form one of the most potent controls. Social geography has to do with the functioning of geographic material with life. Commercial geography as a distinct subject in our curriculum, is based upon social factors. How will certain geographic information function with life? is the social phase of geography teaching.

III. Aims of Geography Teaching.

The aims of geography teaching may be variously stated: James Bryce gives the following categories:

1. Geography is the foundation or starting point of "human studies"—literature, history, economics, sociology, etc.
2. Practical training in observation.
3. Training in reflection.
4. Pleasure which knowledge of the subject adds to travel.

Richard Elwood Dodge of Teachers' College, New York, gives the following aims:

1. Knowledge—understanding geographical conditions.
2. Power—ability to think clearly and accurately.
3. Interdependence—study of inter-relations of peoples and individuals, and independence of all.
4. Citizenship—ability to combat successfully with social and physical environment.

The Paris Commercial Geography Society gives the following aims:

1. To place science at the disposal of commerce, and to put theory into practice;
2. To aggrandize your country by developing industry and commerce abroad;
3. To receive and sift information from all parts of the world, and store up facts which may be freely drawn upon by all who can turn them to good account, whether for commerce or for theoretical study.
4. To extend the study of everything which promotes agriculture, manufacture or trade, both at home and in the colonies.
5. To show the mass of the people that they are interested in the products, export and import, of their own and other countries, and that knowledge leads to foresight, and foresight leads to power.

All consideration of geography shows that its aims fall into two categories: (1) those that merely discipline the

mind, and (2) those that teach the practical uses of environment.

Under the first head we may class:

1. Real knowledge of nature by direct observation.
2. Interpretation of world conditions and forces as leading to other sciences.
3. Knowledge that broadens the mental horizon and destroys narrow, fallaceous notions.
4. The knowledge which promotes sympathy with environment.

Under the second heading we may class:

1. Environmental studies that lead to greater productive capacity.
2. Area studies that will show productive and social interrelations.
3. Human adaptation studies that lead to better citizenship.

In his excellent little book on "The Teaching of Geography," Sutherland writes: "No one is educated who has not a fairly good fund of geographical facts and a reasonably clear notion of the science necessary to their understanding. The transactions of everyday life demand a knowledge of place. One must locate persons and places with a fair degree of accuracy, both with relation to himself and with relation to other fixed places, or his view of things will be much distorted. Every nation is dependent, and as such must know where other nations dwell, what of excess they produce, what terms of exchange can be effected, and what routes and modes of carriage can be resorted to. It is impossible to conceive a civilized community without international relations, and hence an educated people must understand these relations and have clear conceptions of foreign countries and foreign peoples."

Summarizing, the aim of geography teaching is to give an understanding of place adjustment, economic adjustment, political and social adjustment.

IV. The Teacher's Preparation.

As geography is such a catholic study it is necessary first of all for the teacher to decide if the material to be taught is geographic in its nature and not a phase of some other

science. In order to establish this relationship, three tests are essential:

1. Does it show a correlation of life with physiographic environment?
2. Does it explain controls and responses?
3. Is it "earth determined" in its nature?

The first requisite, then, is that the teacher should be able to recognize purely geographic material that the teaching effort may be properly directed.

The teacher should be familiar with:

1. The subject matter to be taught.
2. The physiographic processes.
3. The interpretation of geographic features in one's own environment.
4. The uses of books, maps, charts, etc.
5. The values of type studies.

1. The teacher must not only know the subject matter, but he must know it in its teaching value. No excuse can be accepted for a lack of subject-knowledge and no amount of method can take its place. The teacher must know the subject matter not as the text book teaches it but as he himself would treat it if he were writing his own text. He must know it not only as pure subject matter, but in all its relations to other collateral geographic matter and in its relation to what has preceded and what is to follow it in the mind of the student. He must know this subject matter so fully that he can interpret it for the student in whatever stage of advancement that student may be.

2. One of the fundamentals of a teacher's equipment is a thorough knowledge of what are called the physiographic processes: diastrophism, vulcanism and gradation. Diastrophism is a slow uplift or subsidence of large areas of the earth's crust. Coastal plains, plateaus, mountains, lake-beds, etc., are examples of diastrophic movements. A sinking or a rising coast is an example of this physiographic process. Most continental structure is due to diastrophism. Vulcanism is the ejection of interior earth matter, and may take place actively, as in the case of volcanic eruptions, or quiescently, as in the case of intruded lava flows. Coastal changes and oceanic islands owe their origin frequently to vulcanism. Gradation

is the wearing down of land to sea level by wind, water, glacial or other physical or chemical forces. Gradation is antagonistic to disastrophic uplift and vulcanism and tends to establish an equilibrium of forces. The degrading of rivers, the smoothing of uneven topographic formations by ice sheets, the transporting of loose soils, the building of natural bridges and limestone caves are examples of gradation. The peneplains of New England and the Canon of the Colorado are good examples of this physiographic process.

3. Unless the teacher is able to interpret geographic features in terms of his own environment, much of the practical value of the study will be lost. "Book knowledge" is good, but it is not enough; it must be applied to daily conditions of life if the full benefit of geography study is to be obtained. Lessons in soil, in school yard formations (especially after a rain), in plant food values, in climatic influences, etc., may be applied to the home conditions surrounding the student.

4. A teacher's preparation should include a knowledge of books, maps, simple apparatus and other aids to geography teaching. The accepted text book should be studied thoroughly; its method of presentation, its manner of treatment, its scope and aim should be well understood. Text books are intended for just what their name implies—books from which we are to get our geographic texts for use in the school room. All text books contain very brief statements and very condensed treatments. The teacher must elaborate. This implies a broad collateral reading and a full knowledge of geographic facts and conditions.

5. Often the success of geographic teaching depends upon the wise selection of types and their proper handling. One type study, well chosen and well taught, is worth a hundred pages of text indifferently presented. The teacher should be familiar with type formations and type conditions. The topic method of presentation admits of good type study. This form of teaching should embody full use of maps and map sketching, a thorough study of causal relationships, a continuous comparison with other types, a "linking together" of physical and industrial conditions.

The teacher needs:

1. A mind well stored with geographic experiences.

2. The power of chosing good illustrative material.
3. The ability to form clear-cut images.
4. Skill in blackboard illustrating.
5. A clear-cut, lucid style of English.

1. All elementary teachers feel the need of a rich and varied assortment of geographic experiences to draw upon in their daily routine of work. The value or lack of value of such experiences depends largely upon the power of observation. Within the range of any teacher's life is a mass of interesting geographic facts waiting to be interpreted. The ordinary ignorance regarding plants and animals is often surpassed by a lack of knowledge concerning natural conditions and phenomena that surround us. Our poets know more of the common things than we do because they have a loving absorption and joy in them. Geographic experiences may be obtained by observation, by travel, or by reading good books and good periodicals. A good geographic library is an essential for any teacher.

2. McMurry says regarding this phase of the teacher's needs: "By confining the children to the text-book and to memorizing its statements, the young teacher can easily deceive himself with the idea that the children are learning and understanding. But any lack of interest and attention in oral work shows the teacher at once that his words are not understood, that explanations, examples, and abundance of concrete material are indispensable. The oral teacher drops, therefore ,into a much more graphic, illustrative, concrete style of teaching, and this is undoubtedly better adapted to the minds of children in primary and intermediate grades. It is observable with good oral teachers that their whole style of thought and conversation becomes tinged with the objective, realistic mode of interpretation. When they talk to children their language is couched in figures of speech, images, and objective examples from common life."

3. What the teacher has clearly in his own mind, that he can the more easily give to the student. Especially in the lower grades is it incumbent upon the teacher to image clearly, for there the child is largely dependent upon the teacher's pictures of geographic conditions. It is also the duty of the teacher to train this mental ability in the child that he, in

turn, may come to picture for himself. There is not a problem in geography that does not call into play all the constructive powers of the teacher's imagination. A good creative imagination is certainly a basic necessity in the ability of every geography teacher.

4. "The teacher who cannot use the blackboard is shorn of half his strength at the start." Drawings of all kinds are almost as necessary as written descriptions, and the blackboard is one of the best mediums for sharp, plain delineation. Simple line sketches to illustrate some geographic truth, diagrams to establish location, chalk modeling to show continental structure, become sources of power in the teacher's work. Drawing is also a source of economy and skill in instruction.

5. Simplicity and clearness of language are needed to get geographic topics before the child. Striking phrases, homely figures of speech, an interesting manner of delivery, all aid the teacher in his effort to interpret images for the student. A geography teacher should be a good story-teller, as through the story a child often acquires geographic fact more readily. Freedom of thought, an exchange of ideas, good fellowship, will all aid in a better understanding of subject matter. Language was given us to elucidate our thoughts, not to conceal them; and written and oral speech should always be subservient to our ideas. Too many teachers wander about in a wilderness of words that have no oasis of thought in them. Cultivate clear, rapid thinking and lucid, simple expression.

V. Home Geography.

1. How the world is fed.
   - Plants that are native to the home.
     - Conditions under which they live best.
     - How prepared for use.
     - Use made of surplus products.
   - Plants that are imported to the home.
     - Where they come from.
     - Conditions under which they grow.
     - Their uses, etc.
   - Stories of the foods of other peoples.

A school garden should be kept and a careful study made of the growth and uses of the common food plants.

Excursions to nearby farms and produce stores will broaden the students horizon.

Food animals that are found around the home.
Their care, their uses and their products.
Food animals that are imported.
Where they come from and how they live.
Stories of animals of other lands.

Encourage the love of pets upon the part of the child and lead him to see the uses and value of companionship of our domesticated animals.

Locate the principal plant and animal areas upon the globe.

2. How the world is clothed.

The evolution of clothing.
Stories of clothing from other lands(locate areas upon the globe).
The cotton plant and its uses.
Where it grows, how it grows and what its uses are.
Flax and its home.
Stories of flax growing from other countries.
The making of linen.
Silk and the silk worm.
A study of the production of silk.
Leather and its preparation.
Areas devoted to the raising of cows.
Fancy leathers from foreign countries.
Hats and their making.
Special crops that are grown for the making of hats.

Industrial areas should be located upon the globe and a general idea formed as to the locations of centers of trade. Materials to be studied by the class may be obtained from stores about the school. It should be the aim of the teacher to give a bird's-eye view of the world in these studies.

3. How the world is housed.

Lumber and its by-products.
Study forest areas about the school and compare to other areas in the state and country.

Study the work of the saw mill and the furniture manufacturing plant.
Kinds of lumber found at home.
Kinds of lumber imported to the home.
Where grown and conditions of growth.
Mode of transportation.
Iron and other metals used in house building.
How and where obtained.
Locate metal areas in state and country.
Convenience and beauty as essentials to the home.
A study of the primitive homes of other races.

4. How the world works.
Primitive home-life in America.
How the Eskimo lives.
How the Indian lives.
Home-life of other peoples compared to these.
How other people work.
The story of the Chinese laborer.
The story of the Swiss laborer.
The story of the American laborer.

Journeys by means of oral descriptions and by pictures should be made to the homes of other peoples who have figured in our histories. Ancient homes of the Greeks and Romans may be compared to those of the English and French.

5 Map-making.
Establish an idea of direction by means of—
The sun,
The north star,
Some local point.
Teach the cardinal points of the compass.
Compute comparative distances.
Sketches of the schoolroom and school-yard should be made.
Idea of scale may be developed.
Sketch the surrounding country, a stream, lake, or valley, showing the location of settlements, roadways, railroads, etc.

A study of simple maps of local topography should be made, that the student may understand geographic symbols.

6. Study of the world as a whole.
   - The shape and parts of the globe should be established.
   - Learn the general location of the land masses.
   - Establish the direction of the leading countries from the home and from each other.
   - Correlate geographic points with the history lesson.
7. Local physiography.
   - Excursions to examine:
     - Hills, valleys, plains;
     - Streams, tributaries, lakes, etc.
   - Action of water upon soils, rocks, valleys, etc.
   - A study of upland and meadow soils.
     - Rich bottom lands.
     - Fertilization of poor soils.
   - Rock strata and river cutting.
   - Soil and rock deposits.
   - Note the influences of valleys upon towns, railroads, bridges, roads, etc.
   - Climate as affected by topographic formations.
   - Effects of seasonal changes:
     - Rain storms.
     - Floods.
     - Spring freshets.
   - Effects of snow and ice on soils.
   - Movements of the sun and moon.
     - Varying length of day and night.
   - Effects of change of season upon man's occupations.
8. Local industries and commerce.
   - List the local industries found in your community.
     - Locate some of the large manufacturing plants and give reasons for their location.
   - Note the effects of streams upon the location of industries.
   - Locate the great manufacturing areas in your country.
   - Study the roads leading into the county seat of your county.
     - List the farm products brought over these roads.
     - Study the conditions of your local market.
     - Note the products sent from your county seat.

Study the products brought to your county by the railroads.
Which came from your state.
Which came from other states.
List the products sent out by your county.
Study the means of transportation.
Where sent, why sent, when sent, what received in return.

9. Local government studies.
The county seat.
Legislative officers.
Judicial officers.
Executive officers.
Ordinances regarding police, lights, etc.
Local taxation and its uses.
The county schools and their locations.
County courthouses and trials.
The keeping of county records.
The work of the county authorities.
Improvement of roads.
Police protection.
Tax levies and returns.
Encouragement of county progress.

10. Little journeys to
Parts of America:
Niagara Falls.
Atlantic coast.
The coal fields.
Fishing banks.
The wheat fields.
Cotton and the negro.
Western sheep raising.
Precious minerals in the Rockies.
Pike's Peak.
The National Park.
Fruit in California.
Lumbering in Washington.
Salmon of the Columbia.
Etc.
Historic spots:

Champlain's voyages.
The land of the Pilgrims.
Evangeline's country.
The home of the Iroquois.
The Louisiana territory.
Etc.

VI. Preliminary Geography.

The earth in space.

The solar system—the sun and its attendant bodies.

Members of this system—sun, planets, planetoids, satellites, comets, meteors.

Two hypotheses of solar formation—nebular and planetesimal.

The earth as a planet. Other planets related to the earth as evening or morning stars.

Comparative sizes of planets and distances from sun.

Relation of earth to sun—source of attraction, heat, light, other forms of energy, photosynthesis.

General shape of the earth.

Proof that it is not flat—
Has been circumnavigated.
Smoke of steamers seen after boats have disappeared.
New stars rise as traveler goes north or south.
Shadow on the moon is circular.

Proofs that it is an oblate spheroid—
Law of rotating bodies.
Angular ascension of stars corresponds to angular distance traveled on surface.
Bodies weigh more at the poles than they do at the equator.

Size of the earth.

Give difference between polar and equatorial diameters.
Compute circumference distance at poles and at equator.
Compare in size to the sun, moon, Jupiter, and Mars.

2. MOTIONS AND DIRECTIONS.

Motions—revolution and rotation, establish definition of each.

Proofs of revolution—
- Law of revolving bodies.
- Sun and star parallax.
- Spectrum lines.

Proofs of rotation—
- Differences in diameter lengths.
- Falling bodies tend toward the east.
- Foucault's pendulum.
- Day and night. (This depends upon revolution having been first demonstrated.)

Direction is relative location.

Direction was first established by the apparent path of the sun.

Direction established by the axis of the earth.
- Locate Polaris.
- Locate important constellations near Polaris.
- Note the apparent motions of constellations and explain.

Direction by the compass.
- Establish cardinal points and learn other divisions.
- Account for variations in compass.
- Study the uses of the compass.

Directions on the globe.
1. Location of poles.
2. Location of equator.
3. Location of ecliptic.
4. Location of meridians and parallels.

Latitude and longitude are distances.
- Latitude is measured north or south of the equator.
- Longitude is measured east or west of a given meridian.

(The teacher cannot teach this subject too carefully. Latitude and longitude are not lines. Meridians and parallels are used to aid us in computing these distances, but these lines are not the distances themselves.)

Latitude is distance measured on the meridians and by the parallels.

Longitude is distance measured on the parallels and by the meridians.

The hemispheres.

Northern and southern: their limits and scope.

Land and water hemispheres: boundaries should be learned.

Eastern and western hemispheres: reasons for their uses.

Direction upon the globe should be transferred to a map.

A map is a symbolic representation of the earth's surface drawn to scale.

There are three kinds of maps in general use in the geography text books named from their different methods of projection.

The Mercator.

The Globular.

The Stereographic.

(These should be very familiar to the teacher.)

other projections sometimes used are

The orthographic.

The polyconic.

Locate the cardinal points upon the map used.

Note whether direction is given in a curved or straight line.

Note the distortions shown in a Mercator map.

3. DISTRIBUTION OF LAND AND WATER.

Trace the great continental areas.

Sketch in outline the forms of the various continents.

Locate and study the oceans.

There are two kinds of islands: oceanic and continental; study each kind.

Trace the world's high- and low-lands. Locate the principal drainage basins.

Make a careful study of the topography of each continent.

4. CLIMATE AND SEASONS.

Weather is the daily condition of the atmosphere.

Climate is the average condition of the atmosphere; an average of the weather.

Climate consists of: wetness or dryness, heat or cold, kinds and quantity of winds, amount of light received, healthfulness or unhealthfulness.

The factors that govern climate are:

1. Latitude.
2. Altitude.
3. Location.
4. Local conditions.

Climatic zones:

Torrid: that section of the earth that has a mean average temperature of over 70 degrees Fahrenheit.

Frigid: that section of the earth that has a mean average annual temperature of less than 32 degrees Fahrenheit.

Temperature: that section of the earth that has a mean average annual temperature between 32 and 70 degrees Fahrenheit.

Causes for a change of seasons.

1. Revolution.
   The earth's path about the sun.
   The sun in one focus.
   Varying distance from sun; varying speed of earth.
2. Inclination.
   Amount of inclination.
   To orbit.
   To perpendicular to orbit.
3. Parallelism. Meaning of term.
   Position of axis in regard to Polaris.
   Position when earth is nearest sun (perihelion).
   Position when earth is farthest from sun (aphelion).
   Part of earth that receives most direct sunlight at above times.
   Position of earth when both poles receive the same amount.
4. Names of seasons.
   The solstices.
   The equinoxes.

5. WINDS AND RAINS.

Winds are air movements and blow from areas of high pressure toward areas of low pressure.

Explain the barometer and its uses.

Kinds of wind—

1. Constant. (Prevailing or planetary.)
2. Periodic.
3. Variable.

Kinds of constant winds (named from the direction in which they blow).

Easterlies or trade.

Westerlies.

Direction due to the rotation of the earth. (See Ferral's law).

Belts of calms.

The equatorial belt of calms.

The horse latitudes.

Trace the movement of these belts north and south with the apparent passage of the sun.

Periodic winds.

Shore and sea breezes. (Explain their direction.)

Monsoons. (Explain their causes.)

Variable winds are due to local conditions in the atmosphere and cannot always be predicted with certainty.

Trace the variations in the rainy season (of Spain, for instance) due to the shifting of the sun.

Local rain areas are due to 1. latitude, 2. altitude, 3. presence of water, 4. nature of soil.

Trace the great rain areas of the globe and account for their locations.

Study the effects of rain upon the earth's surface.

1. The physiographic effect.
2. The effect on the atmosphere.
3. The biological effect.

6. TIDES AND CURRENTS.

The tides are periodic rises and fallings of the waters of the earth.

Parts of the tide:

1. Flood.
2. High.

3. Ebb.
4. Low.

Causes of the tides—

1. Attractive force exerted upon the earth by the moon.
2. Attractive force exerted upon the earth by the sun.
3. Centrifugal force due to the revolution of these bodies and the earth.

Kinds of Tide—

Spring tides, when the moon and sun exert their influence in a straight line.

Neap tides, when the moon and sun exert their influence at right angles to each other.

The first condition arises when these bodies are said to be in syzygy; the second when they are in quadrature.

Tidal variations are due to rotation, physiographic formations, and other causes too hard for the young student to fully understand.

Effects of tides upon coastal formations, river mouths, etc., should be carefully studied. Tidal bores, races, etc., are interesting modifications of tidal phenomena.

Currents and their causes.

Movement due to winds.

Directions due to rotation.

Modifications due to physiographic formations.

Locate the principal currents, as the Canary, the Kurosiwo, the Gulf Stream and the equatorial drifts.

Make a study of the Sargasso seas, especially that one Columbus had some trouble with.

7. TIME.

Methods of measuring time—

1. Sidereal day.
2. Solar day.
3. Lunar day.

Teach the difference between apparent and mean solar time.

Define the civil day and show its uses. Why do not astronomers use this?

Show the relationship between longitude and time. Teach International date line.

Standard time as a convenience. Established on the first meridian that was an even number of hours west of Greenwich.

Sketch maps of the standard time belts and explain carefully their irregular boundaries.

Problems in time and the equation of time will be of great advantage to drill a class in their knowledge of what is meant by these subjects.

VII. Life Geography.

The three forms of life and their dependency:

Mineral

Vegetable = Animal

Distribution according to size—torrid and frigid zones.

Distribution according to number—torrid and frigid zones.

Distribution according to value—temperate zones.

Distribution by zones—torrid, abundance and variety; temperate, usefulness; frigid, abundance but lack of variety.

Mineral kingdom—

Minerals—any inorganic species having a definite chemical composition.

Metal—a mineral having a peculiar lustre.

Ores are mixtures, not compounds.

A study should be made of the economic minerals and their areas of production.

1. Coal, anthracite, bituminous, lignite, peat, etc.
2. Iron, pig, cast, rolled, steel, etc.
3. Oils, petroleum and its products.
4. Natural gas.
5. Copper, brass (copper and zinc).
6. Gold and silver, other precious minerals.
7. Stones of various kinds, especially building stones.

Vegetable kingdom—

1. Areas of dense tropical forests and their products.
2. Areas of forests and cultivated lands.
3. Areas of savannas and steppes; their uses for grazing.
4. Areas of tundras; native animals and people.
5. Areas of mountain flora; type plants.
6. Areas of desert flora.

A thorough study should be made of natural plant barriers and their influences upon plant growth.

Animal kingdom—

Great life regions—characteristic species:

1. Australian, kangaroo, cassowary, etc.
2. South American, opossum, sloth, etc.
3. African, hippopotamus, giraffe, etc.
4. Oriental, elephant, tapir, etc.
5. Eurasian and North American, wolves, black bear, etc.
6. Island, chiefly birds and turtles.
7. Ocean, whales, porpoises, etc.

Outline for study of plants—animals—

1. Individual species found in each continent.
2. Typical growths and their environments.
3. Adaptations to peculiarities of environment.
4. Uses to man for food, shelter, clothing manufactures, medicines, aesthetic uses, clothing protection, burden bearers, companionship and sport.

THE RACES.

Basis upon which races are judged—

1. Color (very unsatisfactory).
2. Structural differences:
   - Shape of skull.
   - Position of eyes
   - Kind of hair.
3. Modes and habits of life.
4. Intellectual attainments
   - Savage.
   - Barbarous.
   - Semi-civilized.
   - Civilized.
5. Possession of ideals.

Points to be studied about the races—

1. Former and present homes.
2. Physical characteristics.
3. Mental characteristics.
4. Numbers.

Principal divisions of mankind—

Negroid, present Ethiopians.

Mongoloids, present Indians or Americans, Malays or Brown race, Chinese.

Ruddy, present Caucasians.

RELIGIONS.

Paganism.

1/7 of all the people.

Brahmanism, 1/10 of all the people.

Buddhism 1/3 of all the people.

Semites.

Judaism, 1/4 of all the people.

Christianity, 1/7 of all the people.

Mohammedanism.

Judaism, Buddhism and Brahmanism are Asiatic, Mohammedanism is African and Christianity is European and American in distribution.

GOVERNMENT.

Kinds of government—

1. Tribal (common among pagan peoples) rulers, chiefs, patriarchs.
2. Theocracy (rule of the Druids an example) rulers, priests. Tibet offers about the only example of this form of government now.
3. Oligarchy, rulers—a body of men; consuls, as in the days of Rome or of France under the Consul Napoleon.
4. Monarchy, absolute, examples Turkey and Persia in the recent past. There are no absolute monarchies now except amid pagan tribes. Limited or constitutional; rulers, king, emperor, czar, etc.
5. Republic.

   Pure, direct referendum, Switzerland as an example. A country not composed of sovereign states.

   Federal, representative government, United States as an example. A central government and several sovereign state governments.

Location of governments—

Tribal in Africa.

Theocracy in Central Asia.

Oligarchy is not definitely located.

Monarchy, absolute, in Asia; constitutional, in Europe.
Republic, pure, in Europe and South America; federal, in North America.

INDUSTRIES OF MANKIND.

Five great industries that have to do with raw material—
Agriculture, cultivation of plants for man's uses.
Herding, care of domestic animals for man's uses.
Lumbering, products of our forests used for fuel and building purposes.
Fishing, sea, river and lake foods used by man
Mining, metals and minerals used by man.

One industry that prepares raw material for man's use—
Manufacturing, the altering of raw products that they may be more readily used.

One industry that has to do with the transportation of raw materials and their finished product—
Commerce, the interchange of commodities.

Agriculture—
The great food crop areas of the world and of the United States should be studied and compared. Man's advancement in methods of cultivation should be noted.

Herding—
The areas of the beef and dairy cows should be located and suitable reasons given for their location. Horse, hog, sheep areas should be studied. Nearness to market, modes of transportation and prevailing prices due to supply and demand should be noted.

Lumbering—
The areas of hard and soft woods should be sketched on maps and the great centers of the lumbering interest should be studied.

Fishing—
Salt and fresh water fish are the foods man uses to great extent. Areas along both coasts of our country should be located and compared with foreign products as to quantity and quality.

Mining—

Coal, iron, lead, silver, gold, and other valuable ores are obtained in our country. Study their methods of distribution and how man obtains them.

Stone is quarried not mined; note the difference. Locate the great building stone areas of the world.

Manufacturing—

Location depends upon easy access to power, raw material used, markets and labor. Locate the great manufacturing centers in the world and explain their positions.

Commerce—

Includes transportation and trade.

Study the great trade routes of the world and notice how the large cities have grown up at their intersection.

Kinds of trade:

Domestic.
Internal revenues.
Foreign.
Duties.
Imports.
Exports.
Aids to commerce:
Telegraph and telephone. ....
Consuls.
Navy.
Means of transportation:
Bodies of water, rivers, lakes and ocean.
Trails.
Roads.
Railroads.
Ports.

VIII. Regional Geography.

Outline for teaching North America. (This outline may be used for the teaching of any of the continents, countries or other areas, being modified by the teacher to suit physiographic and other conditions).

Position:

Directly opposite the great mass of the Old World.

Northern continent of western hemisphere.

Latitude 9—40 to 71—24 north.

Longitude 53—3 west to 172—26 east.

Size:

Third continent in size.

One-sixth of all the land in the world.

About 4,800 miles long and 3,200 miles wide.

Two-thirds as large as Africa, one-half as large as Asia, and twice the size of Europe.

Outline:

Triangular with widest part north.

Arctic and Atlantic coasts nearly equal in length.

Coasts:

1. Arctic: Blocked with islands; little use to man.
2. Atlantic: Northern part rugged, southern part low with swamps and sandy islands. Florida coral formation, West Indies partly submerged mountains.
3. Pacific: Few good harbors, narrow coastal plain, islands not important.

Surface:

1. Primary highlands in west (young). Consist of rugged ranges, plateaus, and interior basins.
2. Secondary highlands in east (older). Consist of parallel ranges of mountains, intervening valleys, plateaus and an escarpment.
3. Central lowland. Formed of the eastern slope of the primary highlands and western slope of the second highlands. Watershed divides it into a secondary north and south slope. One of the greatest valleys in the world.
4. Atlantic coastal slope. Consists of a piedmont section and a low coastal plain.
5. Pacific coastal slope. Consists of ranges near the coast, a great valley and a narrow coastal plain.

Drainage: 1. River systems—

Arctic slope: Mackenzie, Nelson, etc.

Atlantic slope: St. Lawrence, Hudson, Savannah, etc.

Gulf slope: Mississippi, Rio Grande, etc.

Pacific slope: Colorado, Columbia, Yukon, etc.

2. Lake systems—

Northern lakes (glacial).

Great Lakes.

Plateau lakes.

Climate: Every variety of climate is to be found in North America.

1. Northern belt: Cold region, includes most of Canada, northern part of Alaska, and Greenland.
2. Central belt: Mild region, chiefly in the temperate zone.
3. Southern belt: In or near the tropics; an abundance of rain.

Regions of rainfall—

1. Pacific section; Moderate and heavy rains along the coast, due to westerlies.
2. Plateau section: Light or no rains; arid conditions.
3. Eastern section: Mississippi Valley and east coast, moderate rains.

Vegetation: Three belts determined by climate—

1. Northern belt. Dry, cold; stunted vegetation. Lichens, scanty grasses, dwarfish flowers, pines and firs.
2. Central belt: Mild climate, much moisture, agricultural lands, grains, vegetables, hay, fruits; sugar-cane and cotton in the south.
3. Southern belt: Hot climate and abundant moisture; luxuriant vegetation, palms, tropical fruits, dye-woods, cabinet woods, etc.

ANIMAL LIFE:	Three belts determined by moisture and vegetation. 1. Arctic belt: Beaver, walrus, seal, whale. etc. 2. Central belt: Bear, deer, wolf, duck, bison, etc. 3. Southern belt: Monkey, parrot, lizards, birds, etc. The grizzly bear is peculiar to North America.
PEOPLE:	1. Arctic belt: Esquimaux and Danes. 2. Central belt: Chiefly English; a mixture of nationalities. 3. Southern belt: Indians, descendents of the Spanish and mixed races.
INDUSTRIES:	Agriculture in the eastern half. Central lowlands, grain and cotton. Pacific slope, fruits, etc. Mining in the highlands. Forest belts: Eastern highlands and Pacific coast, Great Lakes and southern coastal plain. Fisheries: Along the coasts and on the navigable rivers. Grazing: Along the slopes of the western highlands. Fur bearing animals: Eastern slope of the Rockies and in Canada. Manufacturing: Along rapid rivers, especially in the northeastern part of the country.
POLITICAL DIVISIONS:	Danish America, Canada, United States, Mexico, Central America and West Indies.
FOREIGN POSSESSIONS:	To Great Britain: Canada, New Foundland, Labrador, Jamaica, Br. Honduras, Bahama Island, Turk's Island, Leeward Islands, Windward Island, Barbadoes, Trinity. To Denmark: Greenland, St. Croix Island, St. John Island, St. Thomas Island. To France: St. Pierre Island, Miquelon, Martinique, Gaudeloupe.

IX. Illustrative Material.

MAGAZINES.

Magazines and books of travel furnish excellent supplementary material to the text book. The subject matter in most standard magazines is far more reliable and up-to-date than is the text book. Current literature is a great assistance in getting the latest information. Magazines, especially such as the "National Geographic Magazine," are valuable for their excellent illustrative matter. Most magazines emphasize the social side of geography that the text books slight, and through this medium school material can best be drawn into close social contact with world conditions. Such magazines as "World's Work," the "World Today," or the "Journal of Geography" furnish the teacher with an abundance of collateral material from which to draw illustrative examples.

GOVERNMENT PUBLICATIONS.

The publications of the United States Geological Survey, of the Department of Commerce and Labor, of the Treasury Department, or of the Department of Agriculture, are very useful to the conscientious teacher. Experiment station and State publications are also useful. These government publications are in most cases free or are to be obtained at a nominal sum. Consular reports and census reports may be obtained from the Government at Washington and from these may be learned commercial relationships. Many of these papers are beautifully illustrated, and form valuable additions to the school's collection of geographic pictures.

PICTURES.

Good pictures are some of the most valuable aids in the teaching of geography. A picture will economize both time and effort. Being a literal visual reproduction it has its pedagogic value. Pictures are accurate and encourage study upon the part of the child. Pictures in the text are often as important as the descriptions, and should be carefully studied by the teacher and class. A scrap book, made up of pictures culled from the leading magazines and post cards, is a valuable addition to the school library. Whenever possible, stereo-

scopic slides should be used in the school room. Such views are excelled only by stereopticon pictures, which are very valuable if the school can afford a good lantern and a good set of slides.

SCHOOL MUSEUMS.

A working school museum is possible for any school. All that is needed is a case or cabinet to house the specimens, a few bottles to preserve the grains, seeds, etc., labels to catalogue what the school has gathered and a few boxes to hold the minerals and rocks. All materials should be neatly labeled and kept in designated places in the cabinet. Much of the material should be collected by the students, while some of it may be obtained by interchange with other schools or by application to numerous manufacturing houses. There should be samples of minerals, rocks, grains, seeds, vegetable fibres, spices, woods, insects, grasses, flowers, etc. Each should be chosen for its geographic interest alone. Examples of the manufacturing of a product from the raw to the finished stage should be shown wherever practical. The collection should be educative and not a mere collection of things of no geographic interest.

WEATHER CHARTS.

Every school should have a daily weather map (this may be obtained from the daily paper), and a number of cloud charts. The U. S. government issues a circular entitled "Explanation of Weather Maps," which is very valuable to any teacher. A simple thermometer and mercurial barometer will greatly aid in the study of the weather. A home-made sun dial should stand in the school yard. Simple exercises in the computation of time, the precipitation averages, the angle of the sun's rays, relative and absolute humidity of the atmosphere, will aid the student in understanding many meteorological conditions. A weather record like the following should be kept at the school:

Date.	Hour.	Temp.	Wind Dir.	Veloc.	Air Pressure.	Precipitation.

MAPS AND MODELS.

Maps are representations of the earth's surface by means of geographic symbols. Most maps used in our schools are

drawn on a flat surface and so exhibit some distortion. It is one of the fundamental requisites of a teacher that he shall be able to interpret maps of all kinds. A good map must be truthful within the limits of the geographic symbols employed, it must be distinct in its characters and lettering, and it must use the usual symbols of geographic lore (even its spelling must conform to the standard geographic requirements).

Kinds of maps according to projection. (Flat maps only are considered.)

Mercator: A modified cylindrical projection; the parallels and meridians are straight lines at right angles to each other. No standard scale can be given for such a map on account of the distortion of the polar regions. Advantage gained in that direction is indicated in right lines.

Stereographic: Area desired is projected upon a plane, tangent to its central point, from the opposite end of the diameter touched by the plane. In this projection the parallels appear as flattened circles.

Globular: Differs from the stereographic only in being projected from a point 1.707 times the radius.

Orthographic: Differs from the above two in being projected from infinity; the lines of projection pass through the globe parallel.

Classification of maps—

Political: Show the principal physiographic features with special attention to artificial boundaries (those made by man; hence the name.)

Outline: A political map with names omitted.

Progressive outline maps: Those used to show successive stages of study. These may be bought of most school-supply dealers at a few cents a hundred and used by the pupils as occasion offers.

Production maps: Outline maps used to show the products of any given areas as such areas are studied. Products may be indicated by writing in names or by attaching small pieces of them if the maps are large enough. Product maps of the whole country and of the state should be made and dis-

played. A large product map may be worked up by the class as a whole.

Dissected outline maps: Areas are cut out carefully and the whole map rebuilt from the cut pieces. Such maps are easily made by pasting large paper maps upon pasteboard and then cutting the states or desired areas separate with a sharp knife.

Relief: Maps which show vertical irregularities.

By Contours: Lines connecting equal elevations. The U. S. Geological Survey publish excellent maps of contour irregularity and each school should have those maps that illustrate its immediate neighborhood. Write to Washington for copies of such maps; they cost five cents apiece.

By colors: The varying shades of color designate certain altitudes of the land or depths of the sea. Wall maps of this kind are very valuable and may be obtained from any school-supply dealer. They are more expensive in price.

By shading: Generally in black and white. Maps of this kind are largely used in text books to show topographic formations.

Models: An actual miniature reproduction to scale. This is a useful form of map, but is not accurate, as two scales have to be used; one for altitude and the other for horizontal measurements. (Why?)

Paper pulp models: Tear old newspapers into small bits, allow these to soak over night in a pail of water until perfectly soft; drain off water, work into a pulp and then build up the map upon a previously prepared outline. When dry, color in water colors and then varnish.

Salt and flour models: Two parts of common salt to one part of flour; mix well (dry), add water very slowly until of the consistency of wet sand. Apply to outline as was done with paper pulp.

Sand and mucilage maps: Draw outline on stiff cardboard and cover map with a coating of mucilage; sprinkle sand over map; allow it to dry. Repeat the process, building up highlands in this way.

Sand models: Construct a board of convenient size with a rim about two inches deep about it. With dry sand build up your map on the outline made on the board. The advantage of this method is that you can use the sand over and over again.

Chalk models: One of the best maps for the teacher to use. By means of chalk the different topographic formations are represented upon the blackboard. Variations of contour may be made by careful shading. This is one of the best means of training children to interpret geographic formations. Chalk pictures of river systems, coastal formations, waterfalls, rapids, etc., are easily rendered by the teacher after a little practice. "Chalk Modeling," by Ida C. Heffron, will be found helpful to the beginner in this work.

SCHOOL CORRESPONDENCE.

School correspondence: An aid to the teacher will be found in the exchange of letters between schools in different locations. This should be carried on by the students under the direction of the teacher. After correspondence is established between schools situated in different sections of this country, letters may be sent to foreign schools. Offers to exchange postcards and native products generally find ready acceptance. In this way much collateral information may be gathered.

X. BIBLIOGRAPHY.

BOOKS UPON THE PEDAGOGY OF GEOGRAPHY.

Frye, A. E., How to Teach Primary Geography, Ginn & Co.

Frye, A. E., Teachers' Manual of Geography, Ginn & Co.

Geikie, A., The Teaching of Geography, The Macmillan Co.

King, Chas. F., Methods and Aids in Geography, Lee & Shepard.

McCormick, Henry, Suggestions on Teaching Geography, Public School Pub. Co.

McMurry, C. A., Special Method in Geography, The Macmillan Co.

Mill, H. R., Hints to Teachers on Choice of Geographical Books for Reference and Reading, Longmans, Green & Co.

Redway, J. W., Brooks and Brook-basins, Ginn & Co.

Redway, J. W., Child and Nature, Ginn & Co.

Redway, J. W., Reproduction of Geographic Forms, D. C. Heath & Co.

Redway, J. W., The New Basis of Geography, The Macmillan Co.

Ritter, Carl, Geographic Studies, American Book Co.

Sutherland, W. J., The Teaching of Geography, Scott, Foresman & Co.

Trotter, Spencer, Lessons in the New Geography, D. C. Heath & Co.

Before leaving the subject of a bibliography of geography, I wish to commend most highly the work done by Mr. Otis Ashmore in the Manual of 1897, and also the later work done by Mr. E. C. Branson in the edition of 1906-07. Every teacher in Georgia should have copies of these manuals in his possession.

MAP EQUIPMENT FOR RURAL SCHOOL.

(After Sutherland.)

1. One set of eight up-to-date authentic political maps, showing latest geographic discoveries and political changes. Preferably on rollers in a case for protection.
2. A blackboard outline map of the United States.
3. One physical wall map of North America and one of Europe.
4. One suspension globe.
5. One large scale indexed state map.
6. Reversible map, United States on one side, the World on the other. Shows railroads, large cities, steamship and cable lines and ocean currents.
7. One blackboard outline map of the state.
8. One politico-relief map of the United States.

To these I would add—

Several individual six-inch globes.

As many type contour maps as possible.

A liberal supply of weather maps, and coast survey charts.

HISTORY OF THE UNITED STATES.

BY LAWTON B. EVANS, A. M.,
Supt. Schools, Augusta, Ga.

PURPOSES IN TEACHING HISTORY.

1. Primarily to teach the facts in the lives of men who have affected the current of the world's affairs; and also great incidents, or eras that represent turning points, climaxes, or controling influences in the history of the nation.

2. If the facts are properly selected, arranged, and taught, the pupils will derive a knowledge of the motives, principles and characters of the great men who have made history, and an inspiration from their lives that may affect their own thoughts, feelings and relations to their fellow-men, and to their country at large.

3. The pupils should gain an appreciation of the lives of the common people, their struggles, trials, hardships; their customs, manners, habits of life; the heroic endurance and enterprise they have shown in the nation's progress; the great sentiments that have affected them, either uniting them solidly, or dividing them politically into parties; the racial temperaments and prejudices that have brought about great racial achievements.

4. The pupils should get a knowledge of the development of ideas and institutions. The idea of religious liberty that led to the founding of the colonies; the idea of civil liberty that led to the Revolution; the idea of personal liberty that led to the Civil war; the idea of territorial expansion that opened the West; the development of our democratic institutions, are all more valuable than the dull details usually found in our histories.

5. These ideas of the race have led to the great racial movements that have brought the country to its present condition. These national movements are the currents of history whose flow has been fertilizing or devastating, but whose marks are left upon our national character.

6. Pupils should so interpret the individual, and the masses of the past that they can revive and relive history. History should become an emotion and a feeling, based upon the deep impulse that moved men of former times. We should know their lives and conditions so well that we can feel their emotions and understand their impulses and passions.

7. This will result in a better civic impulse for the present, a purified and directed patriotism, in which men will be more inclined to live for their country and for mankind at large, than to die in defence of sectional prejudices and racial antagonisms.

Summary: The purpose of teaching history is to acquaint the youth with those facts in the lives of men, and those impulses in the heart of the masses, that have affected the establishment of our government and controlled the character of our institutions, in order to create in the youthful mind an appreciation of our present condition and a deep respect for mankind.

Material for Teaching History.

1. A basal text that shall be guide for the teachers' work and the pupils' preparation for the topic to be studied.

2. A collection of other histories to be consulted and compared by the teacher and the class in order to amplify and supplement the text, and to get different views of the same question.

3. An abundance of pictures, from all sources, arranged in portfolios or scrap-book form for increased illustration of the subjects of history. The portraits of all our national heroes; all the great paintings on national events and national ideas, can be collected and used advantageously.

4. A collection of short biographies suitable for childrens' reading, in which any one especial hero can be studied at large, by individual reading in a general class instruction. This might be called supplemental biographies.

5. Illustrative material of Indian life; colonial curiosities; relics; in fact anything that the child can see and handle that came down from former times to serve as a link between the present and the past.

6. A sand table.

Note: It must be borne in mind that European history and American history have a necessary connection, and that European impulses controlled American colonization, customs and early wars. Therefore, American history has a European background, and the teacher can well afford to prepare to tell the story of European ideas in order to lead to the interpretation of American institutions. For instance, the atrocities of the English debtor's prisons is a good story to lead up to the settlement of Georgia.

Also, since a child has but little need of chronology, and is

much given to imaginative impulses, the heroes of ancient history and of mediæval history, are very appealing as illustrating the same kind of character as that displayed by certain American heroes. George Rogers Clark had the same heroic temperament as David, or King Alfred.

Teaching by the Topical Method.

In order to make history vital, sugnificant and easily remembered, the leading facts should be grouped around the central ideas that constitute the emphasis of history. If history be given a purely chronological sequence and grouping of events, almanac fashion, regardless of a logical connection of the ideas, it will soon be forgotten, because the relation of time is a very loose and illogical relation. The relation of cause and event is the only permanent relation. Therefore:

1. Teach history by large topics.
2. One topic may serve for several lessons, alhtough taught as a unit each time.
3. The topics should fit the age and capacity of the class
4. Each topic should have a vital historical force.
5. The topic may be a biography, an event, an invention, a campaign, a discovery, or an idea.
6. Each topic should be a unit in itself, well rounded, with events leading up to and away from the central idea.
7. Each topic should be summarized into a short statement that condenses the facts and influences of the main idea.
8. The topics may have a consequential or even a chronological relation.

Note: The topical method of teaching history is nothing but focalizing all the historical facts, influences and interests upon one grand idea at a time to thoroughly illuminate it and fasten it upon the mind. For instance, the Monroe Doctrine is a topic for one or more lessons, and serves to illustrate the general method of treatment, viz.: the causes; the fact itself, the effect and influence. To teach history by the chronological or encyclopædic method is to give no fact its due setting, make no relation or grouping of events, and afford no relief to the mind by emphasis. All modern teaching of history is by the topical method.

"Our course of study calls for the selection of a few leading biographies and larger topics of American and of European

history—a few important epochs well treated in a descriptive and even dramatic fullness, are far better than a systematic, chronological survey of the history of many nations." (Charles A. McMurry.)

THE INTRODUCTION TO HISTORY.

The following stories should be told to the pupils in the lower grades before a text book is reached, using simple, dramatic language, and relating them according to the time of the year appropriate:

1. The story of Columbus, his boyhood, his life as a sailor, his belief, his trials, his voyages, his discovery, the Indians, his last days.

2. The story of Thanksgiving, bringing in the Pilgrims, their trials and triumphs. Indian life in New England, Puritan life, the first Thanksgiving festival, etc.

3. Christmas celebration, using the Christmas story, with the usual Christmas pictures, songs and festivities. Local stories of negroes in the negro quarters, etc.

4. The story of Oglethorpe, telling of the debtor's prisons, the collecting of emigrants, the founding of Savannah, etc.

5. The story of George Washington, relying entirely upon the incidents of his boyhood, and his character as a child.

6. Stories of Indian life and adventures in the early settlement of the nation. Something about the Indians of Georgia that our grand-parents knew, etc.

7. The story of Robert E. Lee, with enough facts about his career as a soldier to give meaning to the sentences of Memorial Day.

8. Selected hero stories from the Greek or Norse myths, or mediæval European history, to broaden the conception of history and make it world-wide in its significance.

Note: The teacher will observe that the above outline of eight topics suggests a motive for eight months' work, beginning with October and ending with May, and that each one has a fitting in the month for which it is suggested. In addition to the telling of the story, the parts may be dramatized, the story illustrated, and the motives made very definite. The teacher will need some simple books to prepare from, and will need ingenuity in arranging the details of each motive presentation.

The Use of the Text Book.

Any topic that may be assigned for study need not be completed in one recitation. On the other hand, the topic may require several kinds of study, and may demand several recitations. It is generally suggested then that the mode of procedure be:

1. The topic to be read by the class and explained by the teacher.

2. The topic to be recited by the class and discussed generally.

3. The topic to be reviewed orally or in writing, and enlarged by illustration and comparison.

In no event should the pupils be allowed to memorize the text, to depend entirely upon the questions at the end of the topics or periods, or to mark the words that may represent answers to leading questions. The topic is a unit, to be considered always as such and treated always as such, regardless of the particular purpose or plan of the lesson of the day. The lesson plan will probably contain some such outline as:

1. To bring out the main thought in the lesson.
2. To explain the cause that led up to topic.
3. To clarify any obscurities in the text.
4. To make very real the incident or idea under discussion.
5. To explain any effect or result that followed.
6. To summarize and make definite the meaning of the topic.

Suggestion: The teacher may do well to carefully divide the prescribed text into sections by months, so that the rate of progress may be understood beforehand, and there may be no crowding of the work at any time during the term. This may lead to some omissions, condensation, and possibly to some rearrangements, but it gives the teacher a definite notion of the work to be accomplished in the prescribed time. Certain emphasis may then be observed that will do no violence to the study at large, and certain review periods may be arranged for that are necessary for testing the knowledge of the pupils. It is inconceivable that any pupil can learn all that is in the simplest text, therefore the epochal ideas, or events, must be brought continually to the front that they may abide, whether the details attending them have been forgotten or not.

Supplement the Text.

1. With abundance of illustration, such as stories, description, pictures, and objects gathered from all available sources. This will attract the attention, stimulate the imagination and aid the memory. Personal stories of men and events are the sidelights that illuminate history, make it human, and bring it within the range of the child's understanding.

2. With the playing of games, impersonations, guessing contests, and such other simple devices as appeal to a child's interest and enliven the ordinary dull recital of a lesson, any kind of dramatization or representation, and any kind of contest in which one child's wit is opposed to another's, will create great interest in any lesson.

3. Fanciful stories of child life, illustrating conditions of early times, such as life among the Indians, life on the frontier, life in the colonies, etc., etc.

4. The celebration of anniversaries in which full details of any event are worked out, with patriotic songs, poems and recitations.

5. Parallel readings of poems, and historical novels, by the pupils at their homes or in class. Joaquin Miller's poem "Columbus" contains the highest inspiration from the life of the great discoverer.

List of Poems to be Used.

"The Skeleton in Armor."—Longfellow.
"Columbus."—Joaquin Miller.
"Hiawatha." (Selection from)—Longfellow.
"The Landing of the Pilgrims."—Mrs. Hemans.
"The Courtship of Miles Standish."—Longfellow.
"The Concord Hymn"—Emerson.
"Paul Revere's Ride."—Longfellow.
"Song of Marion's Men."—Bryant.
"Old Ironsides."—Holmes.
"The Star-Spangled Banner."—Key.
"The Defence of the Alamo."—Joaquin Miller.
"The Bivouac of the Dead."—Theodore O'Hara.
"The Battle Hymn of the Republic."—Howe.
"Maryland! My Maryland!"—Randall.

"Bonnie Blue Flag,"—McCarthy.
"Stonewall Jackson's Way,"—Palmer.
"Sam Davis,"—Moore.
"The Sword of Lee,"—Ryan.
"Sheridan's Ride,"—Read.
"O Captain! My Captain!"—Whitman.
"Centennial Hymn,"—Whittier.

Helpful Texts for Supplementary Reading.

Explorers and Founders of America (Foote & Skinner). American Book Co. The Story of the Norsemen; Columbus; the Spanish and French explorers; the English and Dutch settlers; Bacon; Braddock; Wolfe, etc.

American Indians (Frederick Starr). D. C. Heath & Co. General facts about the life, customs, manners and traditions of the Indians; their division into tribes and the peculiarities of each.

The Making of Virginia and the Middle Colonies, (Drake). Chas. Scribner's Sons. The English in Virginia; the English in Maryland; the great Iroquois League; the Dutch and Manhattan; the settlement of Delaware.

The Making of New England (Drake). Chas. Scribner's Sons. Exploring and settling New England; the Pilgrims; the Puritans; Colonies of Maine, New Hampshire, Connecticut, Rhode Island.

The Making of the Great West (Drake). Chas. Scribner's Sons. The story of Marquette and Joliet; La Salle; Louisiana Purchase; Lewis and Clark; The Oregon Trail; Gold in California; later history of the West.

Colonial Children (Hart). The Macmillan Company. A story of the home life of the people in Colonial times.

Stories of American History (Dodge). Lothrop, Lee and Shepard. Mainly stories of the Revolution; Boston Tea Party; Lexington; Bunker Hill; Burgoyne; Andre; Paul Jones; Laurens.

Camps and Firesides of the Revolution (Hart). The Macmillan Co. Home Life; Highways and Byways; the Indians; French and Indian wars; Preparing for the Revolution; Revolutionary firesides; in camp; in the field.

Makers of American History (Chandler and Chitwood). Silver,

Burdet & Co. A series of thirty-six interesting biographies, covering the entire period of American history.

Romance of the Civil War (Hart). The Macmillan Co. Plantation life; the conditions of the slaves; in and out of the army; boy-soldiers and sailors; in camp and on the road; on deck; women and the war.

Note: Information regarding all the above books can be had from the publishers, or from the Southern School Book Depository of Atlanta. The books are inexpensive, are adapted to children of the sixth and seventh grades, and would form a valuable collection for the school library.

Topical Outlines.

In order to illustrate the value of topical treatment of the history of the United States, the following lesson plans are suggested as types for outlines of a few topics. From these suggestions the teacher can discover how topics can be treated.

Columbus.

1. Ancient belief that the world was flat.
2. The opinions of a few wise men that the world was round.
3. The early history of Columbus.
   His birth; his early life; his love of the sea.
   The trials of Columbus.
   His wanderings; his appeals; his disappointments.
4. The triumphs of Columbus.
   The assistance of Spain; the preparation for the voyage, the purpose of the voyage; the incidents of the voyage.
5. The fact of the discovery of land.
   How it was done; where it was done; the incidents of landing; the natives.
6. Later life of Columbus.
   His other voyages; the lands he discovered; his arrest, trial; death and burial.

Points to be emphasized in teaching Columbus:

1. His heroic endurance of misfortune and abuse.
2. His great courage in carrying out his purposes.
3. His personal sacrifice for the sake of an idea.
4. His willingness to stand by his own judgment.
5. What the world owes to Columbus.

6. What lessons we get from a story of Columbus' life.

Date to be memorized, Friday, October 12, 1492.

Geography to be taught: Genoa; Spain; Palos; the line of voyage; the West Indies; Trinidad; Valladolid.

Pictures: All available illustrations shown and discussed.

Sand table: The landing of Columbus; Ships in offing, boats at shore, wigwams (of folded paper), Spaniards and Indians of clay.

Imaginative writing: Personal impressions of one of the sailors on the voyage. Personal impressions of one of the Indians who witnessed the landing of Columbus.

Let us now choose a topic that is not biographical or narrative as above, but is purely descriptive. Such a topic is afforded by:

THE INDIANS.

1. When and where first seen, and why so named.
2. Their supposed origin.
3. Their personal appearance—color; size; eyes; hair; cheek bones, etc.

   Their methods of living—their wigwams; hunting; fishing; bows and arrows; spears; canoes; clothing; moccasins. etc.

Their customs.

Painting their bodies; treatment of women; worshipping the Great Spirit; wandering habits, etc.

Indian Warfare.

War dance; war paint; methods of warfare; scalp lock; treatment of prisoners; endurance of pain, torture and hardship.

Indian character.

Treacherous nature; massacres; treaties; etc.

What we learned from the Indians.

How to raise corn; kill trees; grow tomatoes, potatoes and other plants; smoke tobacco; also of the turkey, cocoa, mahogany, and many medicinal plants.

Illustration: Indian arrow-heads, spear points, pottery, bark canoes; pictures of Indian life.

Literature. Selections from "Hiawatha." Readings from "The Last of the Mohicans."

Dramatization. Playing Indian games; acting an Indian attack on a village; building wigwams; devising Indian costumes, etc.

References. See Starr's "American Indians."

Generally speaking, wars and battles should not be greatly emphasized in the teaching of history. However, the crucial battles of history should be taught, and some of them in considerable detail. The pupil should know the full particulars of the great American battles. We take one of them for illlustration:

BATTLE OF BUNKER HILL.

1. The town of Boston at the time. (Exhibit map.)
   Explain by blackboard drawing the geography of the battle ground.
2. The situation of the British and American armies; size; organization; commanders, etc. Dwell upon the undisciplined but enthusiastic American forces, as compared with the hired regulars of the British. One fought for country; the other fought for pay.
3. The engagement at Breed's Hill.
   Describe the three attacks; the cause of the retreat; the bravery of the Americans, etc.
4. Heroes to be spoken of:
   Putnam; Warren; Washington's comment on the courage of the troops.

Literature: Webster's Oration at the "Laying of the Corner-stone of Bunker Hill Monument" (selections from).

Illustrations: Picture of Bunker Hill Monument. Picture of Boston—then and now.

Results: Encouragement to American cause.

Note: A topographical representation of the battle-field in sand will be a great aid to the pupils. This will require a detail knowledge of the geography of the country, but will make the story very definite.

Another kind of topic is the strictly biographical one in which a great statesman impressed himself upon the history of the country by his ideas. Such a topic may be represented by:

THOMAS JEFFERSON.

1. The incidents of his early life.
   Where and when born; incidents connected with his education; his entrance into public life.
2. Writes the Declaration of Independence.
   Where, when, and under what circumstances; his associates; the signing of, and the incidents connected with.
3. Character of Jefferson.
   His accomplisments; his hospitality; his inability to make a speech; his ability to write; his simplicity; his appearance.
4. His political principles.
   Democratic and States-rights ideas; opposed to Hamilton's centralized government; founder of present Democratic party; influence upon political history.
5. His political acts.
   His presidency; the embargo; the Louisiana Purchase.
6. What the country owes to Jefferson.
   1. The doctrine of states rights.
   2. The territory of Louisiana.
   3. The principles of religious liberty.
   4. The university of Virginia.

Illustration: Picture of signing the Declaration of Independence; fac-simile of the Declaration; picture of Jefferson; picture of Monticello.

Still another topic is the purely political one, as the establishment of a governmental principle. For this we may take

THE MONROE DOCTRINE.

1. The causes that led up to necessity.
   (a) Troubles in Europe over South American republics.
   (b) The Holy Alliance and its threat to the United States.

(c) Demands of Russia along the Northwest coast.
(d) Danger of foreign competition and wars.

2. The doctrine itself.
   By whom announced; to whom; when; in what words; its full and definite meaning.
3. The effect of the message.
   Its reception by England; its tacit acceptance by all European nations; its present effect upon the American continents.

The final specimen topic that will explain those general causes which brought about great events, may be illustrated in

THE CAUSES OF THE CIVIL WAR.

1. The two theories of the nature of our government.
   Hamilton's strong, centralized government.
   Jefferson's states-right doctrine.
2. The words of the Constitution on the rights of the States.
   (See Constitution—Amendment X.)
3. The contentions over slavery.
   The opinions of the Northern people.
   The opinions of the Southern people.
4. The irritating circumstances.
   Abolition movements in the North,
   The Fugitive Slave Law in the North,
   The slave trade in the South,
   The Dred Scott Decision,
   The Underground railway,
   Uncle Tom's Cabin,
   Etc., etc., etc.
5. The direct cause.
   Slavery in the territories questioned.
   The war in Kansas, alarming the South.
   The John Brown Raid, arousing the South.
   The election of Lincoln, uniting the South.
   The avowed intention of the Northern people to abolish slavery in the Southern States.

Note: Emphasize the fact that the war was fought on constitutional questions, of which slavery was the issue. The right

of the States to have slaves under the Constitution, is the point, and not the perpetuation of slavery itself. The South did not care so much for the slaves as it did for its constitutional rights.

Literature: Stories of slave life; instances of rescue under the Fugitive Slave Law; the opinions of statesmen on the right of the South to secede; Lincoln's speeches and inaugural address.

Points for discussion, argument and debate.

1. Was the South justified in seceding from the Union?
2. Was the South wise in seceding?
3. Could the war have been averted, and how?
4. Is war ever justified, and when?

General Advice Regarding All Topics.

It is earnestly recommended to all teachers that the outline of all topics be carefully considered, that they contain all essential points, be logically arranged, and be put before the pupils in writing, so that they form a basis for study, investigation, recitation and review. The topics may well be placed on the blackboards, and the points to be covered can be gathered from the regular text-books, or from any source whatever.

The topics will serve as a basis for questioning, since they represent the subject at large.

The topics will serve as a basis for written work since they contain an outline to write from.

In this way the whole subject of the United States history can be covered according to the capacity of the children.

In the lower grades the topics will serve as a guide to the teacher in unfolding the story. In the upper grades and in high schools, they will serve as a guide to the pupils in their investigation of any subject.

The wise teacher will keep a book in which the topics once outlined can be preserved for future reference. Experience will show how much of a topic, or how many topics, or what kind of treatment can be used with the class in hand. The individuality and ability of the teacher necessarily modify any general suggestions.

Correlation of History with Other Studies.

History is bound up with other studies in close connection. History throws light on geography, or literature, and these in turn illuminate history.

Carlyle says "History is evidently the grand subject a student will take to. Never read any such book without a map beside you; endeavor to seek out every place the author names, and get a clear idea of the ground you are on; without this you can never understand him, much less remember him."

Hinsdale says "The earth is most interesting when considered in relation to its human uses. Geography provides man his sphere of life, and these find its highest interests, not in its deserts or crags, its glaciers or canons, but in its human elements. Political geography is nothing but a form of applied history."

Therefore, the teacher is definitely advised to use a map in connection with the history lessons. It makes the subject have a meaning and a relation that it could not otherwise get.

1. Locate on the map all places of discovery.
2. Locate on the map all routes of exploration.
3. Locate on the map all founding of cities and states.
4. Locate on the map the scenes of all events, battles, etc.

* * * * * * * *

History and literature are no less closely bound together. Some of the best products of historical literature are among the best sources of history. They give the atmosphere of the age so essential to an interpretation of the motives of the actors in any event. Homer gives us the best descriptions of the early Greeks; the Aeneid, the Arthurian legends, the Siegfried stories have a historical bearing, no matter how mythical they may appear.

Such works as "Hammer and Rapier," "The Virginians," "The Spy," "The Yemassee," "The Last of the Mohicans," and the like aid in interpreting the times in which the scenes are laid.

A list of poems for class use has already been suggested. Some of these are good for class memory work.

* * * * * * * *

Finally, History should leave the child with a distinct civic impulse and inspiration. Knowledge is valueless unless it has a bearing upon ones life. It should shape his opinions, direct his conduct, and affect his life. Every lesson in history should be

made a lesson in present day civics, so that a nobler citizenship, with higher ideals, can be made out of the inheritance of our forefathers.

Questions.

1. What do you consider the main purpose in teaching history?
2. What material for the teacher's use can you suggest?
3. In what way is American history related to European history?
4. What is the best method in teaching history?
5. What can you say of the use of topics in history?
6. What stories can you suggest as motives for lower grades?
7. How should the text-book be used in topical teaching?
8. What should be the outline of the lesson plan?
9. State some ways in which the text can be supplemented.
10. Name some poems that can be used.
11. Name some books you can get for class use.
12. Make a topical outline on some historical subject.
13. With what two other subjects can history be correlated?

PHYSIOLOGY.

D. L. Earnest, Athens, Ga.
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I. Purposes.

Prefatory.

1. How to study the text.
   1. Read a sentence; ask a question about its meaning, then give the best answer you can command.
   2. Treat paragraphs in the same way.
   3. Realize, digest, see bearing on life, find illustrations in experience and from reading or conversation.
   4. Think it over, talk it over.
2. How to use the questions and exercises.
   1. Silently read the question.
   2. Answer in complete sentence.
3. How to use a picture, or diagram.
   1. Look it over, noting names and parts.
   2. Locate in your body when possible each part of picture bearing a name, calling name of the part.
   3. Form mental image of picture, naming each part.
   4. Form image of body represented by the picture or diagram.
   5. Ask as many good questions as possible, using your best language and giving best answers.
4. How to teach.

   Proceed from the near to the remote, from the concrete to the abstract, from the specific to the general, from the practical to the theoretical, from the useful to the ornamental, from the living to the non-living, from the actual to the ideal, from the clear to the vague, from the personal to the impersonal, from the egoistic to the altruistic, from the easy to the difficult, from the pleasant to the disagreeable, from the interesting, the gay and the changeful to the unattractive, the serious and the eternal.

5. How to illustrate.
    1. Living body.
    2. Animal carcasses; butcher shop, dissected animals.
    3. Models.
    4. Manikin.
    5. Stereopticon and slides.
    6. Microscope, specimens, and slides.
    7. Pictures; Diagrams.
    8. Vivid teaching. The best apparatus and equipment has no value in weak and ineffective hands; the teacher with creative mind even in a desert lives in a world of plenty. Fortunate the child who sits in a presence radiant with love for the teacher's work!
6. Outlines.

    For good outlines, see Hutchinson's Second Book.

Know why the subject is taught that the work may be rational. Each lesson must have its purpose, the teacher must plan for its attainment, and at the conclusion both teacher and pupil must be conscious of work completed.

1. Gain knowledge—kind?
2. Develop mind—in what way?
3. Self-protection—from what?
4. Guidance—whose?
4. Wholesome, efficient life—why?
6. Trains common sense, about common things, tending to develop good judgment and keep pupil related to environment.
7. Teaches self control, the basic element in the structure of character for strength and beauty.
8. Develops enterprise, activity, positivism and makes one aggressive for favorable conditions about school and home.
9. Beginning of altruism, optimism—establishes them upon rational basis.
10. Hygienic homes harbor and help human happiness.
11. Know and respect the laws of life—mistakes are never overlooked and never forgiven though the penalty may be delayed—no mercy, no favoritism, no escape.

12. Develop admiration for the human body and the human being, the whole person in its present excellence and the grandeur of its possibilities.
13. Show the value and the beauty of a pure, healthy, wholesome, holy life; and for it create aspirations and furnish motives.

II. Departments.

Anatomy—Structure.
Physiology—Function.
Hygiene—Sanitation; Care.

III. The Body.

1. Cell: Definition, Parts, Size, Kinds, Growth, Multiplication.
2. Tissues: *Supporting,* Epithelial, Connective, Adipose, Cartilaginous, Osseous.
   Master, Muscular, Nervous.
3. Organs: Motion, Bones, Muscles.
   Nutrition: Principal—Digestion, Circulation, Respiration..
   Accessory: Secretion, Absorption, Excretion.

The cell is the unit of life. Groups of cells form tissues; groups of tissues form organs; groups of organs form systems. Organs grouped as above are systems.

4. Divisions: Head, Trunk, Extremities, Upper and Lower.

Usually difficult, uninteresting, because unfamiliar. The microscope will be of untold value in arousing interest in the cell. Put some dry grass in water for a few days and then place a drop under a good microscope and admire the miracle of life. If you can do no better, get a floriscope. Expect no interest in unfamiliar forms.

Never bring a specimen before a class without a clear idea of what will be gained. Form early a proper valuation of health and a desire for its preservation and improvement; candidly discuss together the miracle of medicine and the power of prevention.

Exercise.

1. What is your main purpose in teaching Physiology? 2. What is its cultural value? 3. What is its practical value? 4. Define cell, tissue, organ, system, and give five illustrations of each. 5. Give five illustrations of each assessory system. 6. What is the difference between hygiene and sanitation? 7. Rank Physiology as a practical study; give reason for your estimate.

IV. Food.

Organic:

Flesh-forming: Albumin, Fibrin, Casein, Gluten, Gelatin.

Heat and energy forming: Sugar, Starch, Oils and Fats.

Inorganic: Water, Salt, Phosphates, etc.

Flesh forming foods, Proteids, Albuminoids, are from Meat, Eggs, Cheese, Milk, Beans, Peas, Grains; heat and energy are from each of these and from Butter, Oils, Fats, Potatoes, anything greasy, starchy, or sweet.

V. Digestion.

1. Mouth Digestion. Mastication mixes food with saliva which converts some starch into sugar and furthermore fits the food for swallowing and the action of the other digestive agents.

2. Stomach Digestion. The gastric juice acts on proteids and curdles milk; it also acts so as to prevent decay and stimulates the flow of the bile and the pancreatic juice. The product, chyme, passes through the Pylorus ready for

3. Intestinal Digestion. The bile emulsifies the fats making absorption possible. The Pancreatic Juice is the most general digestive secretion acting upon Starch, Proteids, Fats and Oils, carrying on all digestive processes already named. The intestinal juice changes cane sugar to maltose.

4. Absorption. The digested food is absorbed in all parts of the alimentary canal, but mostly by the villi, the fats reaching the descending vena cava by way of the lacteals and the thoracic duct, the other food stuffs reaching the ascending vena cava through the capillaries in the villi, by portal vein to liver, out through hepatic vein to ascending vena cava.

VI. Hygiene.

1. Improper diet lessens human energy and efficiency, causes most sickness and death. Ignorant kindness in mothers has populated civilized cemeteries with poorly fed babies. Appetite rarely opens a human mouth without admitting a thief to steal away strength and life.

2. Food must be fresh, clean, untainted. Economy and health considerations unite in lessening the amount of meat. Distates for certain kinds of food may be overcome; children should learn to like all simple foods. Avoid rich, highly flavored, complicated dishes. Enjoyment conditions digestion; attractive dishes promote appetite and variety forestalls satiety. An ingenious cook not only prolongs but enriches life. Skill in the cook prevents a look at the still!

3. Amount of food depends upon occupation, sex, age, habit; over-eating is most hurtful to the sedentary. The dietaries of the past were based upon habit, not need. A weak digestion and indoor quiet may daily need not more than twelve ounces of solid food; more than the body needs becomes poisonous waste and produces painful disease and needless death. Some eat vastly more with little apparent injury. An unperverted appetite is a trusty monitor; in place of this rare instinct use sense and experience. How may you know when you eat too much? Too little?

4. Give digestion time for rest; eat not again until the stomach is empty and refreshed by quiet—therefore eat neither between or even at meals while there is partially digested food in the way. Food lying in the stomach more than five hours should excite inquiry; find cause and remove.

5. The statement frequently made that mastication is all that is related to digestion which man can control is not true as the will determines the kind and amount of food and when it is taken; however, mastication largely determines digestive perfection. Masticate to a liquid every particle of food; each step largely depends upon its predecessor. Pupil must learn importance of first and last step of digestion.

6. To induce indigestion, think about it, worry about it and yourself; the more you dread it, the better your chances.

7. Digestion of some is improved by drinking water during

meals; a dry diet is generally better. Take no liquid when there is food in the mouth. Eat and drink only when the stomach is empty.

8. Tea and coffee contain no nourishment and by the young and the sedentary should not be used. If you can omit your cups for a day or two without feeling discomfort they are probably doing no harm. Excessive use is always harmful, but what is excess? Why use stimulants or narcotics? Does tobacco help, or hinder in the race of life? Ask even the conscientious user.

Observations.

1. Weights are instructive; find the weight of a biscuit, a potato, a slice of meat, a spoonful of rice and other food. Weigh four ounces of food to show the amount of food needed at a meal by an inactive person. The weight of an ordinary meal has its lesson. The biggest economy I know is saving half the cost of food and three-fourths of the sickness.

2. Plan nutritious meals at minimum cost.

3. With a given salary, apportion amounts for food, etc.

4. Discuss best methods of cooking different foods, and show effects of the various methods of cooking.

5. Have a Food Fair.

6. Discuss the value of the garden. One may go to Heaven on fat meat and corn dodger, but he will not be happy on the way. Show the relation between civilization and the bill of fare. Master the earth and enjoy its fruits; spare the hoe and spoil the cook. A lean garden springs from a lame mind.

7. The most valuable part of sanitation consists in keeping the alimentary canal clean. Put into the mouth nothing but proper food. Touch not lips with pencil, book, or unclean fingers; and the common drinking cup must go!

8. Avoid medical self-treatment. Medicines are poor substitutes for preventive hygiene. The pill box and the patent medicine bottle shall soon be, like witchcraft, out of date. Dieting and wise fasting will cure many diseases caused by over-eating. Laxative foods are better than laxative medicines. Use simple remedies when needed, but when sick

enough for medicine, get a doctor. Let good judgment control appetite; be temperate, be regular, be serene.

9. Clean the teeth after each meal.

10. Haste in eating is waste of life. Take no liquid while there is food in the mouth. Diet and exercise promote digestive activity. Depraved appetite is man's worst enemy.

Questions.

1. What is the difference between a food and a food element? Illustrate.

2. Which is cheaper, animal or vegetable food? Safer?

3. Name the most nutritious foods; the least costly and most nutritious.

4. What is the function of each food element?

5. What is the use of a pleasant flavor?

6 How much does necessary food cost?

7. Trace the changes through which a mouthful of bread and butter passes and the manner in which it gets into the blood.

8. Name five causes of indigestion.

9. Name ten parts of alimentary canal and state use of each.

10. Give ten rules for eating, not using "Don't."

Simple experiments are found in all good texts; do not neglect them, as

1. Weigh a day's rations and show to class.
2. Observe sweet taste of any starchy food well chewed.
3. Show osmosis or absorption by placing in water egg with shell removed from large end.
4. Show amount of dirt on unwashed hands by wetting hands and wiping them upon clean white cloth or paper! It is a fine object lesson. If you prefer, wash and filter the water used.
5. Show value of screens against flies—two plates of food, one exposed, the other screened.

VI. The Blood and the Circulation.

Living blood is Plasma and Corpuscles; dead blood is Clot and Serum. Red corpuscles carry oxygen to and CO_2 from the cells; the white corpuscles destroy disease germs and

repair injuries. Minerals and proteids of the food and CO_2 from the cells are carried dissolved in the plasma.

Two circulations, Pulmonary and Systemic, carried on by Heart, Arteries, Capillaries, Veins and Lymphatics. The blood one-thirteenth of the weight of the body, is driven through arteries and capillaries by the contraction of the heart and the elasticity of the arteries, through the veins by this and by the compression of the muscles in action of the lungs which in expanding produce suction, backward flow being prevented by the venous valves.

The food eaten and in the blood is used either in building up the body or furnishing force by oxidation; this food with some of the white corpuscles oozes through the walls of the capillaries and bathes the cells, the unused materials and waste from the cells find their way back to the circulation by the lymphatics. The flow of lymph is due to contraction of the muscles and changes in position.

Hygiene.

1. Vigorous exercise promotes circulation and prompt removal of waste, increases oxidation and fills the system with buoyant life and bounding energy. The stagnant accumulation of waste is unavoidable without muscular compression on veins and capillaries.

2. Clothing tight enough for the pressure to be felt impedes circulation; only fools will invite disease by deforming feet or figure. Mock not God by this abuse.

3. Pure blood depends upon digestion: good food properly eaten in due moderation and the prompt removal of wastes is health.

Observations.

1. The pulse is affected by position, exercise, tea, coffee, tobacco, emotion, breathing, holding breath. Many interesting and valuable experiments are suggested.

2. Show use of bandages and cords in stopping bleeding; discuss simple remedies.

3. Take an interest in the games of the school; he is not wise who has not learned to play!

4. Use microscope; get heart, etc., from butcher or dissect

a small animal. You must create a veneration for life by an acquaintance with the organs.

Questions.

1. State use of blood, white corpuscles, red corpuscles, plasma, clot, fibrin, valves, lymph.
2. Define pulse, artery, capillary, pericardium, lymphatic, portal, pulmonary and systemic circulations, aorta, auricle, ventricle, diastole, systole, aneurism, palpitation, "heart failure."
3. Compare arterial and venous blood.
4. Trace the course of a drop of blood.
5. How does exercise cause more blood to flow to a part?
6. Why does exercise cause the heart to beat faster?
7. Give cause and treatment of fainting; bleeding at the nose.
8. Where do we find venous blood in an artery?
9. What is the use of each arterial coat?
10. Why do arteries have no valves?

VII. Respiration.

Purposes: To supply oxygen, and to remove waste.

Parts: Mouth, nose, pharynx, larynx, trachea, bronchi, bronchioles, lobes, air cells, with their covering and lining.

Exchanges: Air gives to blood some of its oxygen and receives heat, vapor, organic waste and CO^2.

Rate: Eighteen per minute, one for every four heart beats.

Lung volume: 330 cubic inches, one gallon of which can be exhaled.

Means: Inspiration, and Expiration; by Diaphragm and Intercostal muscles.

Hygiene.

1. Supply an abundance of fresh air. Study ventilation. Realize importance of fresh air at night.
2. The clothing must be loose enough to allow free lung expansion.
3. Learn to keep the mouth shut, at least when breathing. Breathe through the nose.

4. Fill the lungs; practice deep breathing. Read aloud. Sing. Inhale and exhale through a tube of small bore. Make and use spirometer.

5. Practice diaphragmatic breathing; this improves the lungs and voice and aids digestion.

6. Learn how consumption, grip and pneumonia are propagated. Careful preventive measures will save many valued lives—needless exposure and ignorance—how shall they be forgiven?

7. Food is fuel; the fires of life need oxygen. The burning furnishes all our force. If you breath at night, get fresh air!

Observations.

1. A piece of sheet rubber tied over lamp chimney will represent thorax and diaphragm. Tie tube in small rubber balloon to represent lungs; pass this tube through a cork which insert in top of lamp chimney.

2. Test lungs by counting aloud in a low tone; if lungs are weak, the count will not exceed forty or fifty.

3. Test breath for CO_2 by blowing through lime water which may be prepared by putting small piece of unslacked lime in water.

4. Count respirations, normal and after running. Explain.

5. By use of tape measure find chest expansion. Do not be contented with two inches.

6. Study cases of tuberculosis to find cause; discuss impersonally. If possible show bacilli; many do not realize danger of infection from dust, darkness, dampness and diseased persons. The latter should be treated so as not to be dreaded.

7. Train the voice; it is a source of power, of pleasure and of great good—its tone is the language of the soul.

8. Show difference between the tones made with vocal muscles relaxed and same muscles tense. Many pupils and teachers need this lesson.

Questions.

1. State purposes of breathing. How much fresh air does each one need per hour? How much air in an ordinary breath? In a full breath?

2. Define pleura, epiglottis, trachea, bronchi, thorax, pneumonia, bronchitis, tuberculosis, pleurisy, catarrh, a cold.

3 What is the difference between inspired and expired air?

4. How may strength and volume of the lungs be increased?

5. What is ventilation? How may it be regulated?

6. What is the advantage of breathing through the nose?

7. What are adenoids? What are symptoms? Urge their removal!

8. What exchanges are made in the lungs?

VIII. The Skin.

Hygiene.

Too much clothing makes the skin sensitive and the person susceptible to cold, and it must allow free circulation of air next to the skin. A cold air bath is a good skin tonic. Adapt clothing to needs, avoiding too much.

Sun baths destroy disease germs and soothe and strengthen the nervous system.

A good complexion is more than skin deep and depends upon pure blood, good digestion, exercise, sleep—health. Cleanliness is the external condition of this element of beauty.

Cosmetics injure the skin, and perfumes often conceal the need of a bath.

Pupils nearly always go from play to lunch with unwashed hands—and disease is uncleanness! This doctrine is sound and needs expounding. Sanitation is the Science of the Clean! The first step in the path of righteousness is taken with clean feet, and clean hands must be used in breaking the bread of life. Care of clothing, personal cleanliness, orderly desks, carefully kept house and grounds suggest simple duties, but the habits rooted here make possible health, happiness, civilization.

The clean-footed boy knows not ground itch and the hated hook-worm. Protect feet from infected dirt in wet weather

by wearing good shoes, and carry no dirty food nor hand to the mouth and the hook-worm will die.

Hair and nails, appendages of the skin, adorn only when kept free from dirt. The first step in reforming a person, a home or a people is to remove the dirt, and a good bath is a lesson in self-respect. Cleanliness is the path to Godliness and soap is a means of salvation. BE CLEAN! Steps: Clothes; Skin; Air; Food; Blood; Thought; Word; Life. Teach cleanliness about school and home; filth and fever are firm friends. Be clean and fear not the deadly disease germ.

Questions.

1. Give three proofs that the skin and other organs are related.

2. What is the temperature of the body when normal? Explain how this is kept uniform.

3. What is complexion? An albino? Perspiration? Sweat? A freckle? A wart? A mole?

4. Describe the structure of the Cutis; the Cuticle.

5. Give five rules each for the care of the skin, the nails, and the hair.

IX. The Bones.

Skeleton (206)

Head (28)

Cranium (8)

Frontal	1
Occipital	1
Parietal	2
Temporal	2
Ethmoid	1
Sphenoid	1
Ear	6

Face (14)

Malar	2
Maxillary Inf.	1
Maxillary, Sup.	2
Nasal	2
Lachrymal	2
Palatal	2
Turbinated	2
Vomer	1

Trunk (52)

Hyoid	1
Sternum	1
Ribs	24
Vertebrae	24
Sacrum	1
Coccyx	1

Extremities (126)

Upper (64)

Clavicle	2
Scapula	2
Humerus	2
Radius	2
Ulna	2
Carpus	16
Metacarpus	10
Phalanges	28

Lower (62)

Innominatum	2
Femur	2
Patella	2
Tibia	2
Fibula	2
Tarsus	14
Metatarsus	10
Phalanges	28

Uses: Motion, Support, Protection.

Composition: Animal, 2 parts; Mineral, 1 part—varying with age.

Hygiene.

(1) Bones of young are soft and easily deformed. Teach pride of position, attitude, also its importance. Clothing, shoes, must not deform, compress. Observe position walking, studying, carrying books.

(2) An erect position aids the vital organs, the spirits, self-respect, the character. Keep your head up physically, mentally, morally; you are on parade, and God is looking!

(3) Food affects bones; consider rickets.

(4) Bones suffer from tuberculosis; avoid infection.

(5) Vigorous exercise developes sound tissues; even the bones respond.

(6) Teach effect of thumb-sucking by a baby—see dentist.

Observations.

(1) Get a skeleton; from a doctor, if possible—that of some lower animal, if necessary.

(2) Remove animal matter from a bone by burning; weigh before and after to show amount of mineral matter.

(3) Remove mineral matter from a bone by soaking in dilute acid for a few days; dry and weigh. Compare (2) and (3). Why are bones of young much like what is left in (3)? What inference from each experiment?

(1) Inquire for the *reason* why, not only in reference to the bones but every part and function of the body. Illustrations: Why are two bones in the fore-arm? What is the use of the patella, the skull, the carpus? Why are two plates of bone in skull? What is the use of the marrow? Why is the spine curved? Why is our skeleton internal? Why have we two eyes, ears, nostrils, hands, feet? Why do complexions differ? Why do we have toes, heels, ribs, vertebrae, eyebrows, and lashes, thumbs, nails?

Questions.

(1) Name and locate the bones. (2) What is the periosteum? (3) What is a sprain? How should it be treated?

(4) How would you treat a person with a broken bone until the doctor comes? (5) What causes spinal curvature? (6) What is a broken neck? (7) What is a felon? (8) What kind of joint is knee, wrist, hip, shoulder, jaw, head—each joint in the body? (9) How is each kind of joint adapted to its place? (10) Give five rules for the care of the bones. (11) Describe the structure of a joint. (12) State use of synovia and synovial membrane. (13) Define ligament; capsular ligament. (14) Name three classes of ribs, joints, vertebrae, bones, three openings in bones. (15) How are the muscles attached to the bones?

X. The Muscles.

Uses: Symmetry, Protection, Motion.

Kinds: As to Control; Voluntary, Involuntary.
As to Direction; Flexors, Extensors.
As to Form; Long, Broad, Circular, Pinnate, Spindle.

Classification:

Head,
Occipito-Frontalis; Temporal; Orbicularis Palpebrarum; Masseter; Sterno-Cleido-Mastoideus; Orbicularis Oris.

Trunk (Anterior Part),
Pectoralis Major; Pectoralis Minor; Obliquus Externus; Serratus Magnus; Rectus Abdominalis.

Trunk (Posterior Part),
Trapezius; Rhomboideus Major; Serratus Posticus Inferior; Latissimus Dorsi.

Upper Extremities,
Deltoid; Biceps, Flexor Cubiti; Triceps Extensor Cubiti; Supinator Longus; Pronator radii Teres; Flexor Carpi Ulnaris; Palmaris Longus; Flexor Carpi Radialis.

Lower Extremities,
Demoris Rectus; Crureus; Sartorius; Vastus Internus; Vastus Externus; Adductor-Longus, Magnus, Brevis; Triceps Abductor Femoris; Gastrocnemius Externus; Tibalis Antecus; Flexor Longus Pollicis Pedis; Extensor Longus Digitorum Pedis. The 500 muscles are made of fibers bound in bundles. They are attached to the bones by tendons, tough, white cords.

Hygiene.

(1) Proper Exercise; (2) Improper Exercise; (3) Time for Exercise; (4) Rest; (5) Correct Positions; (6) Best time for Exercise; (7) Place for Exercise; (8) Value of Play and Value of Work.

Benefits of Exercise.

1. All muscles are developed, made flexible and strong. As all physical, mental and moral activity is dependent upon

muscular contraction, man is essentially muscle. Circulation, respiration, digestion are indispensible vital processes, each possible by muscular action.

2. Disease is prevented, life is prolonged and made more worth while. Improvement in circulation is the first noticeable effect of exercise; this eliminates those waste products which are so largely the cause of such diseased conditions as lassitude, gout, rheumatism, catarrh, indigestion, nervous prostration, melancholia, insomnia—let us say disease. Digestive sins and imperfect elimination are basic causes of disease—not the only causes, for improper breathing and poor ventilation are disastrous, but vigorous exercise induces full breathing, perfect oxidation and pulmonary elimination.

3. Active exercise bathes the brain in an abundance of pure blood rich in oxygen and nourishment and makes possible that happiness and efficiency which arise from vigorous and healthy mental activity. Forceful, interesting exercise makes the fires of life burn more brightly.

4. Useful physical work is necessary, indispensible; life, civilization by it become possible, and the sedentary must take daily part in the work of the world. Physical efficiency and common sense are companions; a sane life grows from a laying of hands upon real things that need doing. Every girl should be trained in house-work and every boy serve the apprenticeship of farm or shop. Efficiency of brain grows from skilful toil of hand; each child must have his task at home and at school. The beginning of training is physical training. He that hath not achieved mastery in the school of toil lacks a strength of character which this alone can give. All of man's power and skill find beginning in the muscular activity of work and play, but work will be but deadening drudgery and play the life of a thoughtless animal if there be not a look and a longing for a better way.

5. Some benefits of play:
   1. Circulation is increased;
   2. Respiration is made more rapid;
   3. Wastes are eliminated;
   4. Oxygenization is more perfect;
   5. Every organ is stimulated and cleansed;

6. Mental state is beneficial;
   Joy quickens activity—
   Contest, rivalry, enlivens;
7. Co-ordination is learned;
8. Skill is acquired;
9. Moral life begins—
   Altruism dawns,
   Social spirit awakens,
   Self seeking is subordinated, to common interest,
   Love of fairness grows,
   Reign of law dawns,
   Feelings schooled, subordinated to reason and will.
   Resolution, Decision, Fortitude, the moral and the
   Heroic flash into life, at first momentarily.
10. Development of mental life inaugurated—Perception,
    Memory, Judgment, Imagination, Reason;
11. Troubles and worries forgotten;
12. Mind and body re-created;
13. Self life forgotten.

When Christ said, "Of such is the kingdom of Heaven," He must have seen a child at play. Teacher, you have lost your hold on child life, the spirit of humanity when you have forgotten, have lost, the spirit of the child at happy play. Hell is the thought of hated work, Heaven the joy of labor loved; then may there not be a Paradise of Play where childhood lives and manhood rests and is re-created?

6. Daily take at least an hour of vigorous exercise outdoors, if possible, at work or play. Let it be whole-hearted, sweat-producing; physical ailments dissolve in abundant, carefree sweat. The inactive may not, cannot eat. He who forgets himself in his happy toil has found his Paradise regained.

Questions.

1. Name and locate ten muscles and tell the function of each.
2. State the uses and the shapes of the muscles.
3. Define each class of muscles.
4. Give five reasons for taking systematic exercise.

5. Give five rules for taking exercise.

6. Name five good games. State in writing physical benefits, mental and moral values of each.

7. Why should boys and girls play separately?

8. What is your opinion of Manual Training? Name some forms suitable for home and school. Give reasons for answers. What are you going to do about it?

The Nervous System.

The function of the nervous system is to control all life processes, voluntary and involuntary. Nerve tissue is composed of cells and fibers. Knots of cells are called ganglia; bundles of fibers are nerves. Cells receive impressions and send out impulses, both of which are carried by nerves.

Parts and their Functions.

Nervous System—Vital Control.

A. Cerebro-Spinal Nervous System.

Brain,

Cerebrum—Thought; Intelligence.

Cerebellum—Coordination of movements.

Medulla Oblongata—Automatic and Reflex Action.

Spinal Column,

Spinal Nerves.

Motor—Movement.

Sensory—Sensation.

Cranial Nerves—Special Sense; Digestion; Respiration.

B. Sympathetic Nervous System—Coordination and Automatic action of Vital Organs, Heart, Lungs, Stomach.

The Sympathetic nerves are bundles of gray fibers. Gray cells compose the ganglia, the outside of the brain and the inside of the spinal cord. White fibers are found in the brain, on the outside of the spinal cord and form the spinal and the cranial nerves.

Hygiene.

1. The principal work of the teacher is the development of the mind, the character; your main inquiry is how this may best be done. School work is a rational process, and while you need not, indeed, should not, give the pupil a reason

for everything you do or require, you must have one that satisfies yourself.

2. Each study has its own value and develops mental power and efficiency in its own way, and it may be used to develop each faculty; it is the business of the teacher to know how it is done, and how to apply the studies to the evolution of character at the same time.

3. The law of growth is vigorous exercise; each power of mind and soul must be properly employed.

4. The value of this exercise depends upon the concentration of energy, of attention, upon the work at hand; activity must be intense without strain or worry.

5. Relaxation must alternate with effort; duration of concentration varies with age and training. Dominant interests in kind and persistence are inconstant; a child's interests and attention must be patiently trained to ready, voluntary continuity. The young especially must learn how to rest, to let go, to relax, to play, to sleep—nor should the mature forget, or health and sanity will suffer.

6. The body conditions the mental state and the state of mind controls the body. Health does not insure happiness, but makes happiness greater; happiness, largely a mental product, causes one to forget his health, but makes it better. A state of body may destroy the mind, and a thought may end the life or bring one back from the jaws of death. Despair and disappointment rob muscle of needed vigor and the will of fire and fervor, while hope and faith fill body and brain with the energy that assures success and brings one to the end of his day with joy.

7. The mind, the reason, the conscience, the higher nature must control. Physical training is the proper field for the first efforts to train in self-control; then can follow dominion over thought and feeling. Power of self-determination, self-direction, self-control marks and makes manhood, character. In what simplicity it arises! To control one's thoughts is an end to seek. Thinking is the mind's search for truth—is intellectual digestion—the relating of ideas. Each pupil must think during each recitation, and the teacher must test his thought.

8. Help educate the world to abandon the use of alcohol

and tobacco. Organize against them. Business and science and sense, religion and morality and conscience, God and man unite in telling the young that absolute abstinence is the only safety; all man's powers, his hope for life, for strength, for efficient service, are injured by indulgence. Chances for success in life are improved, ability of body and brain, health and sound judgment, physical, mental and moral rectitude are enhanced by remaining a stranger to the seductions of narcotic and stimulant. Sense should be trained to tell the truth; the worth of sense and feeling is reliability—these drugs delude and deceive and charm by pleasing, infatuating falsehood. Man in his cups, or with mind beclouded by fumes of opium or tobacco, looks away from source of pain or trouble and is made to think it does not exist. That is a poor happiness which abides only because of a suppression or an ignoring of the truth. The only safe, sane route to sobriety is not through legislation, but by means of education and training, the agencies involved being the School, the Home, the Church. Deplorable as are the physical effects, greater ruin is wrought in man's higher nature; 75 per cent of both crime and insanity are directly and indirectly due to drink. No one foresees his mental or moral shipwreck while playing in the shallows of moderation.

Helps.

1. Manikin, charts, photographs, stereopticon, microscope, outlines, skeleton, specimens, brain of cat or dog preserved in formaldehyde. Use drawing freely; copy pictures from text and draw from nature. Prepare lists of questions from the cuts.

2. Consult several texts for questions and experiments; all the newer ones contain valuable suggestions. Do Something! With younger pupils compare organs and functions to things with which they are familiar.

3. Pupils write hygienic rules for different vocations, conditions. Give rules relating to bathing, diet, drink, breathing, exercise, position, rest, sleep, mental state, narcotics, excretions (skin, lungs, kidneys, bowels), teeth, eyes, ears; give reason for each.

XII. The Senses.

1. Defects of eye and ear cause most supposed mental and moral delinquency. A twist, a defect in the source of ideas easily accounts for obliquity and perversity of thought. Ignorant parents and teachers have in the past given stripes instead of sympathy, castigation instead of cures. Many a prisoner is in jail because his eyes are poor; many a criminal has been hung because he could not see far enough ahead. Presbyopia, Myopia, Astigmatism, have they not counterparts in the mental and moral world? The physical eye is the light of the inner life; cure its defects and many a person will be saved to happiness and usefulness. Test each child as best you can for defects of sight and hearing. Speed the day when each child may have competent medical inspection! When a defect is suspected, induce parents to call in the family doctor, or skilled specialist—and save a child.

2. Train senses to competency by a well planned course in Nature Study and Science, the student asking and answering, "What?" and "Why?", getting the facts, the truth, and the reasons for it, the explanation.

3. Too much stress on sense training may lead to arrested development; quickly pass to the higher domain of thought. Object teaching has its limitations.

Questions.

1. What cranial nerve goes to tongue; eye; ear; nose?
2. What use has taste? Smell?
3. What is the cause of catarrh? Effect?
4. What is the use of the eustachian tube? Semi-circular canals? Cochlea? Choroid coat? Iris?
5. Trace a sound vibration to the nerve of hearing.
6. Describe each of the three parts of the ear.
7. Draw a diagram of the ear.
8. Draw a diagram of the eye.
9. Name and locate ten parts of the ear.
10. Name and locate ten parts of the eye.
11. Which is the more accurate, the ear, or the eye?
12. Name ten exercises for training the ear; the eye.

XIII.—Sanitation.

1. Scope, Idea. Largely a matter of being clean. Disease germs are scavengers thriving best where there is most to do. Dust is deadly; do not stir it nor inhale it. Flies flourish in filth; exclude them; better, weekly remove filth and allow them no place to breed. The fly must flee or fevers flourish. The mosquito's bill introduces the doctor's bill; yellow fever and malaria, dread foes and deadly, vanish when stagnant water is drained. Teach value of nets and screens.

2. The public drinking cup must go.

3. Human wastes need prompt removal, or burning. Prompt and thorough removal of sewage saves sickness.

4. Water and milk must be above reproach; typhoid and tuberculosis are lessened dangers when filth is fully feared.

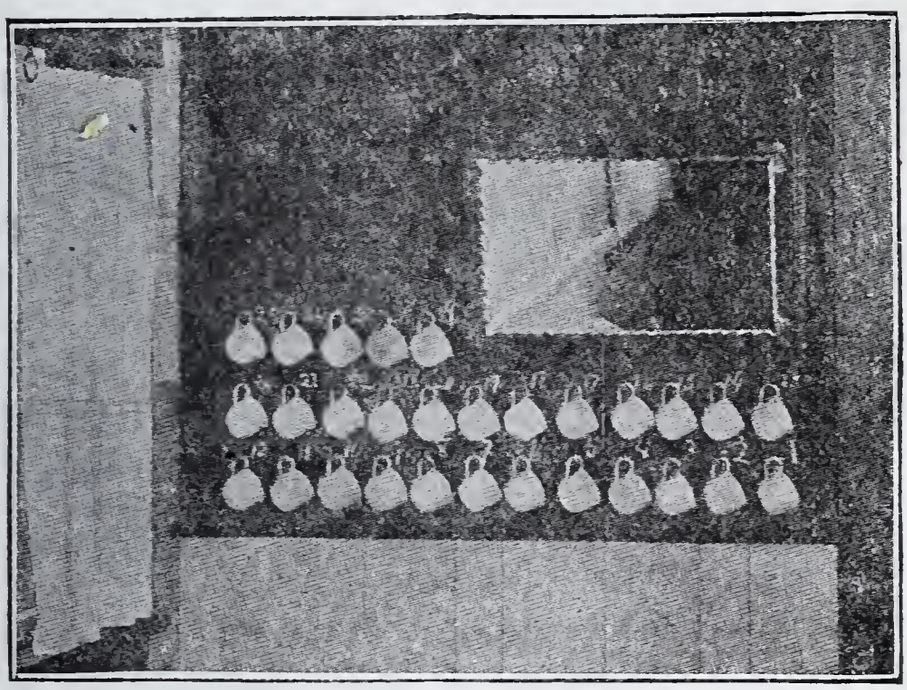
5. Has your County a Board of Health? Even the State Board needs better support. Consult the Health Board about disease and disinfection. Every County should have a Board of Health with authority to control vaccination and quarantine. Educate the rising generation concerning the need of effective legislation, in which Georgia is much behind the times. Write the State Board of Health and learn how to fight Typhoid, Tuberculosis, Hook-worm, and ask how you can help educate the rising generation. Write your Congressman for Government Documents on Hygiene, and Sanitation.

Questions.

1. What is the purpose of sanitation?
2. Define disease. Name some not catching.
3. Name the common diseases that are catching.
4. How are flies bred? Avoided?
5. How may it be shown that flies spread disease?
6. How are germs spread? Destroyed? Checked? What is the motive in quarantine? What moral tonic results from its study?
7. Get meaning of Infection, Contagion, Germ, Antiseptic, Disinfectant, Fumigation, Vaccination, Toxin, Ptomaine, Antitoxin, Heredity, Immunity, natural and acquired.

8. Name the best means of preventing tuberculosis. What conditions favor its propagation?
9. Why is typhoid called a filth disease?
10. What conditions favor the development of typhoid?
11. What is malaria? State its cause; means of prevention.
12. How is the cause of malaria known?
13. What objections can you name to the use of the common towel, and the drinking cup?
14. Write a set of at least ten rules for maintaining sanitary conditions at the school; at the home.
15. What are the functions of a County Board of Health? State Board?
16. What is Hook-worm? State symptoms. Give best means of prevention.
17. Tell how to disinfect a room.
18. State the arguments in favor of sanitation in the form of an attractive speech strong enough and convincing enough to persuade the ignorant needy.

DON'T USE THIS.



USE INDIVIDUAL DRINKING CUPS,

OR THE FOUNTAIN.

SCHOOL MANAGEMENT.

LAWTON B. EVANS, A. B.

A teacher in the city schools may pass unnoticed in the distractions of city life, but in the rural districts the teacher is an important and prominent personage. Where life is so placid and incidents so few, and families have been intimate for generations, the incoming of a new person, or the promotion of one of their number to important position, attracts attention and becomes the subject of general comment.

Rural people are inclined to gossip, harmless and generous, but critical, and the teacher stands daily in the light of the community gossip. Every child carries home the facts of the school, especially the crisis of discipline, and the beginning of new enterprises, and those afford the fireside, and the highway meeting of the farmers the subject of penetrating comment. The gossip never abates; so long as the teacher is in the community he is the occasion of the community talk. His patrons know all about him, where he came from and what his record was, what he says and does in and out of school, what his sports are, who are his friends, and if he shows anybody any attention the community flies together to speculate upon its significance.

Therefore, you should anticipate possible trouble and get in the good graces of the people before they have time to form their prejudices against you. It is clearly your first duty to visit every possible patron of the school, and to solicit their support and the enrollment of their children. This will necessitate your being in the community several days before the school opens, and arranging some way to see the people in their homes. Find out where they live, and walk or ride to their homes, and make them a visit and be as agreeable as you can. Arouse no antagonism by criticism of what has been done, and make no specific promises for the future. Be general in explaining your plans, and cordial and friendly in your expression about your new associations. Set out early to enlist all the community on your side, and know each man, woman and child by name as soon as possible.

Rural children are hard to keep in school at best. There are many reasons to keep them away. Some of these are good and some are not. There is not the same eagerness to send children

to school than one finds in the city. Frequently it is a matter of indifference whether the children go or not. Work on the farm detains some, lack of clothing sometimes keeps them away, or lack of books, prejudices and dissensions between families, old quarrels about the location or conduct of the school itself, or about election of teachers or trustees; in fact, any cause, however trivial, will suffice for the obstinate and wilful father to withdraw or withhold the patronage of the school. The teacher has all this to consider and all this to combat. It requires good sense to move wisely and successfully in a distracted community.

The best way to start is to see the people face to face, and calmly, honestly and firmly talk over the situation and heal all troubles, if there be such. Find out why the children do not attend the school and work on each family's reason as a special problem. You may not succeed, but it is worth your while. Likewise, the best way is always to see the people when you have anything to say, especially rural people. If the matter is important a note is irritating and generally unsuccessful. Face the party and your chances are more than doubled for success. Write as few notes about disagreeable things as you can. They are hard notes to write and rarely accomplish the purpose. Write pleasant things and carry the disagreeable in person when you are compelled to.

Be of the Community.—A teacher belongs to the people among whom he has agreed to labor. He is not working for salary alone, but for the uplift of the people around him. The problem reaches beyond the walls of the school, and to the home life of every family in the range of his patronage. The larger question for you to ask yourself is, "What can I do for these people, as well as for their children?" To ask this question is to answer some that may be vexing you. Clearly you must become one of the community in your work, your pleasures, your friendships and your enterprises. You will need to know and to love the people around you, so that their pleasures and occupations and sorrows are your own, and you are one with them. Upon no other basis can you lead them to other things, sustain yourself in strange enterprises for their benefit, and avoid the destructive stigma that attaches to him who feels above the work he has agreed to do. If you feel above the level of the people, and are not willing to get down to them, and enter into their lives, you

have already registered your failure. You can do all you should do without loss of self-respect, without abandoning one bit of the culture or daintiness, or refinement to which you are accustomed. Country people do not resent refinement, nor cleanness, nor good manners, nor gentleness, nor anything that indicates the real man or the real woman, but they utterly abhor and repudiate snobbishness, pretension, vanity, superciliousness and that indefinable air of superiority that some unwise and unfit people assume when in their presence.

Some of the noblest men and women live in the backwoods and they stand in need, they and their children. They are not debased nor depraved, nor inherently uncouth. They are simply poor, neglected and untaught. It is your chance to carry them a message. If you cannot touch their hands, eat of their food, and enter into their lives without a real or fancied sacrifice of your own refined nature, you cannot get their children to teach—not long. They understand soon how you feel and they silently resent it by withdrawing the children—and you have failed.

Saturdays.—If your home is in another county or city and you have to board in the community, and if you seek to escape as early on Friday as you can, and get back as late on Monday morning as possible to meet the opening hour, you may have a good time at home, but you leave the people and the pupils to suffer for the lack of some things you could do. Every Saturday should be employed in some way for the good of the school. The children who have been absent all the week should be visited. They may be sick and a word from you may be a great comfort. They may be dissatisfied, and a word from you may explain away their misunderstanding. If there are no children to visit, and their homes are not yet represented on the roll, you need to visit them and make yourself better acquainted with the reasons. There is indeed a regular round of social visits for you in which the Saturdays and Sundays can be occupied. Not all, of course. You want to go home one Sunday or Saturday out of every month or two months, or else make some purchase in town, but the most of your leisure time should be spent learning and helping your people.

Church Work.—Of course you go to church and will work in the Sunday school. You will be qualified for teaching the Bible class, or a class of lower grade, according to your best

judgment of what you should do. You had best not be superintendent, unless it is a union of all denominations. That prominence often begets trouble. In conducting yourself outside, in social and other relations, you should be careful to do nothing and say nothing that will deny or contradict the impression you make on Sunday. Be consistent and careful, and avoid even the appearance of evil, for men are generally known by what they appear to be. The eyes of the people are always on you, and you are being watched and quoted. It is the inevitable consequence of your position, and you cannot avoid it. So live and talk that you can afford to be watched, and never do anything in private, or say anything in confidence that you are not willing for the whole community to know—for they are likely to know it, and that right shortly.

This conspicuous role demands of the teacher a self-restraint and consistency that makes his presence a constant example to the children and to the people. He lives every day what he teaches on Sunday, and this is what everybody should do. Furthermore, his conversation, his manners, his neatness, his disposition, his general appearance and conduct are of such nature that the young people can afford to be like him and the children can grow up upon his model.

Lectures.—Rural communities suffer from lack of intellectual pleasures. There is nothing to entertain them, and they become narrow because they have nothing upon which to feed. A little goes a long way with people accustomed to nothing. The teacher can easily arrange for something to entertain and instruct the people. A lecture every now and then, three or four times a year, by somebody in the country or near by city who has been somewhere and knows something, will be really valuable. People do not want to be lectured about themselves; they want to hear of other things outside of their experience. If you can get a man with a stereopticon to give an illustrated lecture on foreign travel, or some topic totally unfamiliar to the people, you will open their lives and widen their outlook upon life. Humorous lectures are always enjoyed; biographical or descriptive lectures are valuable; in fact, anything that is new and attractive and not related to the heavy-burdened and heavy-hearted life of the remote rural districts.

Upon such an occasion the whole house should be abundantly

lighted and decorated, and possibly a bon-fire should be displayed in front. Make the occasion memorable and be active to secure a large attendance. Make the cost as little as possible, and charge no more than is necessary to defray expenses.

Debating Societies.—These will never grow old. They enlist the keenest interest on the part of the performers, and each side brings out its following. A regular club should be formed of the young men who debate interesting questions once a month. It is well for these questions to be live ones, such as current political questions in our own or foreign countries, local, county, or state issues, community matters open to debate without bitterness. The more vital and current the question the more eager and ready the debaters. Avoid old, dry, uninteresting and unprofitable things, topics worn out years ago in many debates. Take new ones where fire is sure to rise, and much talk brought about.

The whole club speaks every time unless it is too large. The speeches should be short, and the whole session not more than an hour and a half long. The judges should be chosen from among the older men in the community, and the decision awarded by a speech from one of them. The teachers can suggest topics and sources of information. The school library comes in here for reading and reference. The young men are given something to think about. The social life of the community is stimulated, and the minds of the people are directed for a while to matters outside the daily routine.

Spelling Bees.—The time-honored contest of knowledge of an uncertain orthography is an unfailing source of amusement and profit. Enlist the spellers before hand to be sure of a good crowd, and ask everybody, old and young, to spell. The young men and the young women will surely go into the contest, and the spelling book used in the school should be the text out of which will come forth the words. The teacher gives out the words. The rules are announced beforehand. A round or two of very easy words are given out to make everybody feel easy. Nobody wants to fall out on the first round. The words get harder and the spellers go down one by one, until a side wins. Then the individual contest begins until but one is standing and the game is over, in about an hour or an hour and a half. A simple prize of a book or picture makes the occasion worth the while.

School Entertainments.—There is probably more trouble and

danger in a school entertainment than in any other gathering of people. They should not come often, and should not be as elaborate as some teachers make them. There will arise a jealousy between schools to give the best entertainment, between children who have parts more or less conspicuous, and between parents whose children are or are not prepared for important parts. The teacher finds at the outset that every child must have something to do or say, and that, as far as possible, all should be equally conspicuous. In a school of thirty or forty children this calls for an entertainment several hours long, a great deal of decorating and costuming, trouble about the stage and lights and worse than all, a great deal of time in rehearsing. This is expensive of money and time, and the teacher is exhausted when it is over; the question arises, "is it worth while?" And the answer is doubtful.

Ordinarily the elaborate school entertainment, or closing exercise, is not worth the time and cost, and unless the community needs it or demands it, should not be undertaken. Simple school exercises are possible and should be given once a year. In these each child takes a part. There need be no fancy costumes, nor drills requiring stage building or red lights. The main feature should be a talk by some good speaker. The superintendent or some one brought out for the occasion, or the teacher himself, in which the purposes of the school are explained and the assistance of the community asked. They should not last more than an hour and a half, and should be arranged to take as little time for rehearsing and involve as little expense as possible.

Music Clubs.—If there is one thing that everybody loves it is music, and a singing club is one of the easiest and best forms of bringing people together. A piano or an organ is necessary, and on this account the club will need to meet at the various homes of the community. Some good musician is in nearly every community who can act as leader. The songs should be bright, popular and easily learned. A music club should be for singing mostly, and if well conducted will set a whole community to singing the best airs of the day. If special talent is developed, a quartette could be formed for special occasions. The church choir will grow out of it. A musical entertainment may be given at some times. Nothing gives a greater uplift to one's mind and

heart than abundant and wholesome music. One cannot sing and be wholly bad.

Book Clubs.—Country homes suffer for lack of reading matter. There are few books in the ordinary family library, and these are dull or have been read to pieces. There are no magazines or literary papers to speak of. The nights, rainy days, Sundays and other times of enforced leisure are weary hours. What is needed is books to take the mind into pleasant excursions in literary fields. These are sadly lacking.

If each of a dozen families will subscribe one dollar to a general fund, as many as a dozen popular novels, or other books of the day can be bought. These belong to the club and are to be labeled and circulated in order, changing every two weeks, say, until each family has had all the books. The secretary of the club will have to see that the books are transferred according to a schedule written in the back of each, in order to insure the regular circulation. By this means, at the cost of but one book, a family has the reading of twelve, and at the end has the possession of one book, unless it can go into a community library.

The same plan is possible with the illustrated magazines, and those of a heavier sort, until the community becomes a reading community, and they keep up with the popular novels and publications of the day.

If the teacher finds it possible, a reading club can be formed to meet once a week and read from some standard work, or study the Chatauqua course, or read Shakespeare, or pursue any literary entertainment they choose. This sort of club is difficult to organize in view of the fact that most people are busy on the farms at all times, and attendance hard to guarantee. However, if it is possible, it will be a great benefit.

Other Clubs.—Depending altogether on the nature of the community and the possibilities in the case, the teacher can organize the young people into all sorts of clubs for all sorts of enterprises. Some of the girls can form a sewing or embroidery club, or a fancy basket club. If there is any artistic talent in the community an art club can be formed with some one of their number to give lessons. The same can be said of flower garden clubs, vegetable garden clubs, and whatever sort is advisable or attainable under the conditions that prevail in the particular

community. At any rate, organize the people into something for some purpose.

Thus you can reach the entire population that surrounds your school, and can teach the people as well as their children. Your school becomes the center of social, intellectual and industrial influence, and you are the promoter of the community enterprises that open ways into other and more delightful fields than the dull ones trod for generations by the plodding toilers of the backwoods. You will meet with opposition, criticism, and the way will be hard at times, and you will be tempted not to try. All good work is hard, and no great thing is ever easy. Those who have saved people have come by the thorn road, but the end and the reward is worth the while.

MANUAL ARTS.

By R. H. Powell, State Supervisor.

1. Aim and Method.

As is true of good teaching in all subjects, the course in manual arts and the method of teaching it should depend on the aim to be attained.

From the point of view of the student, the purpose of work in the manual arts is to enable him to make for himself or others certain kinds of things that he wants to have or to give. From the teacher's point of view the purpose is less simple, but not less clear. The teacher expects to cultivate in the child first, *the habit of devising effective means for accomplishing desired ends.* (This is the most important thing that any education can do for anybody.) Second, *the ability to devise* successful means to attain the ends; third, *the persistency of character* that keeps at an end till it is attained. In another direction, the teacher's purpose is *to refine the student's taste* in the things he desires, *to raise his ideals* of quality, beauty and finish in the useful things of life, and *to train the student's hand* to sufficient skill with tools to meet ordinary needs.

From these preliminary observations two principles follow: First, that the "course" should follow the child's legitimate interests, natural or acquired; and not any logically devised scheme, however pretty it may seem; second, that skill of operation and improvement of ideal must be wrought out through timely suggestions of the teacher (teaching) during the progress of the work, and not by independent, unrelated lessons. Of these two principles, more in detail.

The course should follow the child's interests.. No savage ever built a wigwam, invented a weapon or devised a trap except as he did so to meet a clearly perceived need. No civilized man ever contrived a loom or a printing press, a locomotive or a pipe organ except as he did so to meet a clearly perceived need of man's nature. All material advance in the race of man has followed this simple rule: Man sees how *if* he could do so and so, or get so and so, he could be more of a man ("enlarge his own personality or his tribe's prestige"); and so seeing, he has so done. The child can do no better than to follow the race.

While this principle debars, as injurious to the student and to the work in hand, those "courses" that arrange a set of tasks according to the difficulty of the tool work involved, still there are certain general problems that will occur in more or less modified forms in all communities. Such problems are the elemental questions of food, shelter, clothing and recreation; and these problems should play a large part in the development of any "course" in manual arts. These fundamental problems of life present different phases in a commercial community, a manufacturing community, a farming community. These differences should be recognized—particularly in the more advanced classes, where the student's interests are more intimately associated with the actual life of the community. As the world of imagination plays a relatively more important part in the lives of younger children, there can be more uniformity of problems with them. A problem from a story of Lapland or of Fairy Land or of Doll Land is about as real to the little fellows as a problem from papa's store or papa's farm.

Skill of operation and improvement of ideal must be wrought out through timely suggestions during the progress of the work, and not by independent, unrelated lessons. The time for suggestions from the teacher as to form, shape, material, etc., is in the "designing" stage of the problem. In most cases a student in taking up a problem will have in his mind the community's type and standard of the kind of thing to be made. When the student has done his best to clarify his ideal, if it is rough or unshapely or poorly adapted to its purpose, then is the time for the teacher to point out the facts and help arrive at a better ideal. This better ideal may be suggested by hints from the teacher, by showing a fine example of the thing being made, by a picture, or in many other ways. The point is, the time for the help or the example is *after* the pupil has made an effort or *while* he is making it and has consciously "hit a snag"—*not before he starts.*

The time for teaching the use of a tool is while the student is using it. There is no need to start by telling a boy, for instance, "to take a saw by the handle firmly in the right hand, apply its teeth lightly to the edge of the board, holding the plane of the saw at right angles to the edge of the board, etc." Rather, after the boy has decided just how the board must be sawed to meet

his requirements and has marked it accordingly, tell him to take a saw and saw it off along the line. If, as is likely as not, the boy takes the saw (it will not be the first time most boys have handled a saw) and saws the board straight, there is no need for instruction on that point, and the teacher can hold his assistance for where it is needed. If, though, the boy manifests any awkwardness or lack of control of the saw, call attention *to the result* of the deficiency in poor work, and point out the cause of the result (namely, the awkwardness or lack of control), and show *by example* how to do the thing right.

It may be that practice will be necessary to overcome the poor technique. If so, the time and the occasion for the practice are together. The boy has seen that he was spoiling his board, and he has been shown why. He will probably be willing, therefore, to practice the inefficiency away, because he knows just what he is practicing and just why he is doing it.

The thing being made should always be its own justification (children naturally like to make things); and the end will always guarantee sufficient pains to attain it up to the maker's ideal. The teacher's function is, as has been indicated, to awaken an active desire to make a definite thing, to help the student define his desire, to encourage him along the way, to help him when otherwise failure would be probable, to see, above all, *that he arrives successfully at his goal and tastes the joy of a worthy aim accomplished, so that he will be glad to pit himself against another worthy problem when it presents itself.*

II. Correlations.

Few fields of school activity present better opportunities for the correlation of many "subjects than manual arts. As the work is primarily the solving of actual problems of the student's life, it naturally calls upon and forces into use all sorts of knowledge and efficiency that the student may possess or be able to acquire.

An example will make the idea clearer than much exposition. Suppose that a fourteen or fifteen year old boy wants to make a pigeon house.

To plan the house intelligently, he must know a good deal about the habits of pigeons; the house is to be for their use and must conform to their habits. In pursuit of this knowledge,

the boy will bring together his own observations on the ways, likes and dislikes, breeding customs, etc., of pigeons, and ransack bulletins, poultry magazines, and all kinds of books about pigeons that are available; and he will combine the information derived from all sources into usable knowledge. In this way, the boy will have learned not only a great deal about pigeons, but he will have picked up a respectable deal about ornithology in general and also will have been brought into vital touch with such of the great biological laws as are concerned with these questions of breeding, etc.

Then come the problems of building the house, both the structural problems and the artistic considerations. Again the boy must use his own ideas and those he can find in printed discussions of pigeon houses to lead him to his final plan.

In the structural problems of joints and braces, etc., and in the artistic problems of relative height and width of wall, of window and door spacing, of pitch of roof, and projection of eaves, etc., there is again ample opportunity for reading and comparing. But these problems both in their planning and in their actual carrying out involve a great deal of arithmetic (mensuration, proportion, percentage, fractions, and all the "fundamental processes"). They also give excellent opportunity to make clear many of the fundamental ideas of geometry. (What better chance would one want to make the "Pythagorean proposition" a clear and interesting thing, than when he comes to helping the boy cut a brace for a stud?—Why is it that if he measures eight inches along the stud and six inches along the sill, a brace ten inches will bring the post to a right angle with the sill?)

In studying the problem of keeping the house clean and sweet as possible, the boy is up against the fundamental issues of hygiene and sanitation, and the teacher's opportunity is rich.

In the boy's wide reading for information, he has been getting most excellent practice in that most neglected of all school work, silent reading. In the making of the drawings that should always (or nearly always) go before the actual construction, the student has had admirable work in drawing, and the teacher a most excellent opportunity to teach that important "subject." And further still, if the teacher has had the tact to get the boy to compose his plans in words as well as compose them in drawing and in

woodwork, he will have had an unsurpassed "course" in composition.

Other opportunities without limit will suggest themselves to the alert teacher (and it is not meant that these correlations should be "dragged in by the ears;" if they are not vital to the work they are impertinent); and there are a hundred other problems as fruitful as this one of the pigeon house.

Another aspect of this correlation work that is of great value, particularly in the lower grades, is the remarkable ability of the construction work to visualize and make tangible work in history, in geography, in literature, in community life, and so on. Reinforced by the sand table, it is simply unlimited in possibilities.

The outline as given below of some of these possibilities for the first four grades has been adopted from plans worked out by Miss Lillian Rule, Principal of the Training School of the Georgia Normal and Industrial College. They neither intend or wish to be complete; they are only suggestive.

Lest some one should possibly miss the point and suspect that it is meant to neglect the consideration of skill in the use of tools, let it be clearly stated here that this is not the case. It is meant that if we follow this—Nature's—method of teaching this work, not only shall we secure the rich cultural results here suggested, *but we shall be able to impart in less time more skill in using tools and in making things* than could be secured by teaching the use of tools in an independent and unrelated way as an end in itself.

First Grade.

Let us suppose that in the First grade the "history" stories are about farm life—developing the likenesses and differences in relation to the life of children in the city or town. The following problems worked out in connection with the sand table, will furnish a live interest for several weeks.

(Note: A very good sand table can be made by the school children of older grade, and will be itself excellent manual work. The table top may be made of ordinary flooring, and supported by ordinary saw-horses. The flooring should be nailed to the top of the horses, and a rim of flooring run around so as to hold the sand in. Several coats of white paint would improve the table, but they are not essential. Three by six feet would be a very satisfactory size.)

On the sand table, lay out the farm, showing roads, streams, fences, etc. Streams and ponds should be marked with white paper if the table is not painted; the roads may be indicated by ruts of a little darker sand; the fences may be made of tooth-picks (worm fence) or sticks and strings (wire fence.)

The farm building may be built of blocks, of card board or of sticks (log house fashion.) Card board may be used for the roof in all cases.

The various animals should be modeled of clay.

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Another problem that follows naturally after the one above is the making and furnishing of the doll house. All the pieces of furniture may be made of soft wood, or much of it may be made of cardboard.

Second Grade.

In the Second grade, Indian life serves as a natural basis for hand work.

On the sand table may be planned a landscape consisting of hills and streams, forests (twigs), and meadows, (grass), etc.

The wigwams should be made of cloth and sticks, and should be ornamented with Indian patterns.

The household utensils should be made of clay; the blankets, woven on little looms, which can be made of ordinary boards and headless tacks; the moccasins, made of cloth and decorated with beads; the head bands, made of cloth and decorated with chicken or turkey feathers; tomahawks, fashioned of wood.

Third Grade.

In the Third grade, a pueblo, built of brick made of clay, takes the place of the wigwam, and the landscape of the sand table takes on a barren aspect of cliff and canyon—for the interest has shifted from the wild Indians of the plains and forests to the more civilized Pueblo Indians. The blankets should be woven with more care, and the design should be made more important. The clay utensils should be decorated with water colors. Simple baskets of rafia should be made to meet the needs of the Pueblo family.

Or the work of this grade may be connected with home geography. A farm in a sparsely settled region may be represented on the sand table. The community begins to "settle up." First

the farmer has one neighbor—far away; and then another, and another. There comes another road, crossing the first and making a "cross roads;" and a blacksmith puts up his shop there, and a dwelling house. Because of the central location and the convenience of getting to the place, the school house and the church are placed near the cross roads, too. Next come the country store and the "doctorshop." After a while come the railroad, factories, etc., etc. All these problems can be worked out along the lines indicated above.

Fourth Grade.

The history of the early settlements and colonial life of this country offers an excellent basis of the construction work of the Fourth grade. Early Georgia history is as full of interest as any other, and for Georgians perhaps more full. We can have the general landscape on the sand table, showing the forest, the clearing in the forest, the stream and the landing. The cabin and the crude furniture could be built on a scale considerably larger than could be used on the sand table. The block house or fort with its stockade could form another aspect of the problem. It would be very interesting and instructive to make the old fashioned costumes, to cook some of the old dishes in the old fashioned way; to make an ash hopper and drip some lye from ashes and make some soap; to dip some tallow candles; and so on, reconstructing the various vital activities of the forefathers.

Problems can be worked out most effectively in connection with Christmas and other festivals:—blotters, candy and candy boxes, doll dresses, simple toys of a dozen kinds. The difficulty of the problems should determine the age or grade of the child to whom it is allowed.

Above the Fourth grade, it is probably better to follow the normal life of the students in their homes and in the school for problems in manual work, as has been suggested above. Below are a few suggestions for such problems.

A BOOKCASE FOR THE SCHOOL LIBRARY.

Size, depth, and distance apart of shelves: Determined by number and size of books.

Shape: Determined by where case is to be placed.

Style: Determined by material available and by the taste and skill of the students. (The pieces may be nailed, screwed or mortised together. The style should be determined before the work is begun.)

CORRELATIONS.

In the first place, the whole problem should be discussed—first, the general problem and then, as the work advances, the details one by one. In this way the student is given most excellent exercise in composition. (Oral composition is quite as important as written.)

Arithmetic comes into use when the style and depth of the case have been decided. The student must "figure" from the number of books, the amount of shelf space, and from the size of the space into which the case is to fit, he must figure the number of shelves. He must also figure out the bill of lumber, the number of nails, screws, etc.

After the "figuring," working drawings must be made, which involve not only designing but also more arithmetic, for the drawings must be to scale.

With the actual purchase of the lumber, comes an excellent lesson in industrial history. Why does he have to take the kind of lumber he gets? Why can't he get other kinds? Why are some kinds so much more expensive than other kinds? Why does it cost him more to get pieces that are not of "stock sizes?" etc. What is the relation of man and machinery in this lumber industry so far as getting what he wants is concerned? The field here is rich.

In planning the details of the work, the student is doing (in a simple way, to be sure, but in a real way) nothing less than engineering. He is fitting means to ends, and the success of his work depends absolutely upon the correctness of his planning. The teacher's work comes in here in the form of suggestions as to deficiencies and their probable effect on the finished product and as to ways of getting around the difficulties. The teacher should be neither too ready nor too tardy with his help. Here,

too, is the place for reference to books, pictures, drawings, etc. (And herein lies excellent practice in reading.)

With the actual construction comes experience and instruction in the selection and using of tools. (Technique.)

But with the problem of driving nails and screws stands the physical laws that apply to wedges and screws.

In finishing the work, the student must face problems of color values, shade, tint, hue, contrast, harmony, etc.

Doubtless other fruitful correlations will suggest themselves to the watchful teacher.

While the boys are planning and building the book case, the girls can find an equally interesting work in making curtains for the case. Their task is quite as educative if the work is well done, but its correlations are not so patent. The problem is more artistic than mathematical, but there is the same training in designing, and also the same rich opportunity for composition in English.

In selecting the fabric from which to make the curtain, the students come along by the side of the most interesting chapter of industrial history—that of the textile industry. It is for the teacher to say how far the students go into this field; the students will go as far as the opportunity is afforded, and go enthusiastically.

With the question of the hem and decorations comes a most excellent study in artistic spacing. If a geometric design is used, some geometry will ask admission. But, better, if a leaf design is used, the necessary investigation of leaf form and structure leads right into the heart of nature study.

In the same way as above, and involving the same correlations, the boys may build a table for the library and a chair or two, and the girls may make curtains for the windows and cushions for the chairs.

(It is worth noting here that there is now in Georgia at least one library furnished as suggested above. Only a handful of boys and girls did the work; and yet instead of reducing the

amount of "regular" work, the undertaking had decidedly the opposite effect.)

It is not the purpose of this discussion to treat the question of discipline, but it may be hinted here that a group of boys and girls working busily together toward a common end, are not apt to get into much mischief; and that they are learning by actual practice the greatest of social lessons—the lesson of mutual helpfulness and co-operation.

SCHOOL CLUBS.

M. L. Duggan, State Supervisor.

"Clubs are natural and necessary offshoots of men's gregarious and social nature."—*Addison.*

In every field of human activity, religious, political, commercial, social, industrial, educational, clubs have been found to be a most important condition of human progress. Power for accomplishment has been attained through their instrumentality by men, women and children. The common schools have found the club a very helpful and efficient agency for promoting the art and practice of polemics and the study of literature and some other branches. More recently the practical arts and sciences of the farm and the home are being effectually taught through the common and competitive interests of the clubs. They reach into both the school and home life of the boys and girls, and may be used as a much-to-be desired connecting link.

Organization.—Clubs in General.

The machinery for organization of boys' and girls' clubs should be very simple.

1. The teacher should be the manager or director of the club.
2. The officers should be, a president, a vice-president, a secretary, (sometimes a treasurer) ; and, generally, the terms of office should be short.
3. The object of the club should be to stimulate an interest in some particular line of work involving both the home and school life of the pupil-members, and to promote efficiency in the same.
4. The club may be a joint club of boys and girls, or there may be separate clubs, as best interests may indicate.
5. The time and character of the meetings, programs, exhibits, etc., should be supervised by the teacher and correlated with the regular school work as far as possible.
6. The names and addresses of all club members, together with full information concerning the nature of the work undertaken, should be furnished to the county superintendent.

Boys' Corn Clubs.

Boys' Corn Clubs are no longer in the experimental stage. Results have amply justified them, viewed from economic, social, or educational standpoints. The great interest everywhere excited by them may be turned to good account educationally. Encouraged and promoted as they are by the United States Government, State Governments, Agricutural Colleges, and schools generally, the year 1912 will see organizations in practically every county in the South, and the rural school without a boys' corn club will probably be the exception and need to explain. The expected meeting of the great National Corn Exposition in Atlanta within two years should furnish the greatest incentive to the boys and girls of Georgia. The wise teacher remembering that it is easier to transfer than to create interest will correlate much of the regular school work around the corn patch and the kitchen. It will generally be found that the boy who works his corn best will hand in the best composition in English, especially if his theme concerns his corn; and will understand his arithmetic problems better, if these originate in or pertain to his corn patch; and stand head in spelling, if the words relate to his environment or interests. And so will the whole range of school duties be vitalized.

The organization of the county is not necessary to the organization of the individual school club, but after the individual school clubs are organized it is very desirable that they should be federated in a county club. While one boy in one school may get wholesome results from working and studying his acre of corn and correlating this with all of his other school work, two or more boys working together and in competition will each get greatly increased benefits. Likewise several clubs organized into a county club will intensify the interests and proportionately increase the beneficial results to all. The simple machinery of the organization of the Boys' Corn Clubs and the Girls' Domestic Science Clubs has been so completed and perfected that the individual boy or girl in the remotest rural school may have a real and vital connection under few and easy conditions with the county organization, the State organization, the State Agricultural College, and the United States Department of Agriculture. Furthermore, he or she will receive regularly and directly from

all of these incentive, aid in instructions. And these several agencies have so recognized the importance of the work and the means of its accomplishment that every effort is being put forth to lend timely help and give the best instruction that science can supply.

The Means of Federation.

The teacher has the supervision of the school club; the county superintendent has the supervision of the county organization; the State College of Agriculture, at Athens, Ga., in co-operation with the U. S. Department of Agriculture, supervises the State work; the United States Department of Agriculture, at Washington, exercises National supervision. The officials in charge of the State supervision are Prof. J. Phil Campbell, for the boys' clubs, and Miss Mary E. Creswell, for the girls' clubs, both addresses, care College of Agriculture, Athens, Ga. In charge of National supervision are Hon. O. B. Martin, assisted by Prof. O. H. Benson, care U. S. Department of Agriculture, Washington, D. C. The names and addresses of every member of every local club are on file with each of these agencies; and from all of them will come regularly and directly to each boy and girl letters, bulletins, and such other help and information as will greatly increase individual interest and strengthen the efforts of each and all. Besides all of these there are some seventy Farm Demonstration Agents in Georgia, and all of these have orders from the head of their department in Washington to give personal attention and aid to the boys' and girls' clubs. At the head of these is Mr. E. Gentry, Jonesboro, Ga.

Individual school organizations are desirable, but not necessary. There can be no reason why every public school boy or girl above ten years old should not have all of the benefits accruing from this great organization of forces, and with [illegible] encouragements from Boards of Education, Civic Organizations, Fair Associations, County, State, and National. The many and valuable premiums offered to stimulate competitive contests fulfill their purpose well. It may not be amiss for the individual boy or girl to emphasize the prize offered, but the teacher should never consider it except as a means to obtain better educational results. Scientific information expressed in terms easily understood by teachers and pupils is easily available to all without limit and

without cost, in the shape of bulletins published for free distribution by State Experiment Stations, Colleges of Agriculture, the several Departments of the U. S. Government, and from other sources.

Having organized the boys' corn club, use the excellent opportunity afforded to give definite class work.

Suggestive Outlines.

(Assign definite periods and use Bulletins as texts.)

1. Judging Seed Corn.
   - A. Breed Characteristics:
     1. Shape and size of ear; number of rows.
     2. Size and character of kernels.
     3. Color; grain; cob.
   - B. General Qualities:
     1. Weight of ear; grain; cob.
     2. Relation of grain to cob.
     3. Space between rows; between grains.
     4. Filling out of tips and butts.
     5. Uniformity.
     6. Freedom from mould and fungus.
   - C. Determine why it is best to select: (1) From ears instead of from shelled corn; (2) medium sized ears; (3) ears heavy compared to size; (4) bright color; (5) kernels of uniform size and shape; (6) well filled butts and tips; (7) kernels in straight rows; (8) uniform diameters; (9) kernels with large germs, etc.
2. Germination Tests.
   - A. Conditions:
     (1) Time to plant; (2) depth; (3) temperature; (4) moisture; (5) air; (6) other conditions.
   - B. Percentage:
     1. Percentage from average ears.
     2. Percentage from selected ears.
     3. Percentage from poorest ears.
     4. Percentage different varieties.
     5. Reasons and results.
3. Planting.

(1) Width of rows; (2) distance apart of hills; (3) number

of stalks in hill; (4) percentage of stand; (5) percentage of missing hills; (6) causes.

4. Cultivation.

(1) Character of root growth; (2) how far down? (3) how far out? (4) how near surface? (5) purposes of roots; (6) how damaged? (7) results of damage; (8) uses of "brace roots"; (9) structure of stalks and leaves; (10) functions; (11) tassels; (12) silks.

5. Corn Breeding.

(Only for advanced work.)

6. The Corn Crop.

(1) Size of world's crop; (2) crop in U. S.; (3) State making largest crop; (4) crop in Georgia; (5) largest yield; (6) largest yield in county; (7) largest yield by boys; (8) total probable yield by boys in county.

7. Profit and Loss. (Taking any one report or average.)

1. Cost per acre in dollars and cents.
2. Cost per acre in hours work.
3. Cost per bushel in dollars and cents.
4. Cost per bushel in hours work.
5. Profit per acre in dollars and cents.
6. Profit per bushel in dollars and cents.
7. Value of an hour's work.

NOTE.—Always insist upon a full and careful record.

CORRELATION SUGGESTIONS.

History.

Where is it supposed that Indian corn originated? Who first cultivated it? What civilized people first used it for food? Do all civilized people now use it for food? Mention ways in which corn has had a marked influence upon the history and development of the Nation. Subject for debate: Resolved that corn and cotton have had more to do with the destinies of the United States than "Taxation without Representation."

Geography.

Locate the "corn belt" of the U. S. Upon what conditions of climate does corn depend for its highest development? Why have Illinois and Nebraska more hours of sunshine than Georgia

and Louisiana? Why does the sun shine brighter? Which sections of the country furnish the best markets for corn? Why? How is it generally transported from the "corn belt" to the States that buy it? What products are sold back? Give as many uses of corn as you can. Encourage investigation.

Literature.

Study the story of "Mandamin" as beautifully told in Longfellow's Hiawatha. See that it is understood. Read the legend of the Goddess Ceres and her daughter Proserpine. Also Sidney Lanier's "Corn." Have pupils write compositions based on observations or experience in the cultivation of their corn. Encourage them to compile the year's work and observation in the form of "Booklets, " illustrated. All school work may be correlated around these.

Arithmetic.

Have all pupils to work out the areas of their corn patches from actual measurements which they have taken. Measure width of rows and distance of hills and find number of stalks in the plat. Count them to see if the stand is perfect. By what percentage will the yield be affected? How could this loss probably have been prevented? How many more bushels would have been made from a perfect stand? At a dollar a bushel how much would have been saved? If by careless plowing seven hills in every hundred were covered up, how much did such carelessness cost? If the careless hand was paid 80 cents a day, what would have been gained by discharging him and employing a careful hand at $1.00 a day? How much would such carelessness cost a farmer cultivating forty acres in corn? What is the legal weight of shelled corn to the bushel? The estimated weight of corn in the ear? In the shuck? (Encourage pupils to originate problems.)

Spelling.

Select words for the spelling lessons from the experiences and activities of the pupils. Let them "make up" lists. Grade all written reports of their corn for spelling.

Experiments.

To show that corn plants absorb water: Cut a stalk of vigorous, growing corn, place it immediately in a vessel of water to

which has been added poke berries or red ink. After some time cut a cross section and observe the red water in the pith. Later observe color appearing in the leaves.

Experiment for oil and starch in the grains, etc.

Girls' Clubs.

DOMESTIC ARTS.

Cooking, Canning Gardening, Sewing, etc.

Domestic Science—or more properly Domestic Arts— in the one-teacher rural or village school without equipment and with but little time for the work should be restricted to instructions and practice in the ordinary lines of cooking, gardening, canning, sewing, etc., and can probably be best accomplished through the means of clubs. As with the boys' clubs, the teacher should act as adviser and instructor, and this may safely be undertaken by the teacher without technical training. (Of course, it will be better done by the trained teacher.) The first step should be to create an interest among the pupils and stimulate a desire to learn to do some of the ordinary things in the best ways. Interest on the part of the teacher is absolutely essential, and the only necessary qualification. It is best to attempt only a few simple things, one at a time, and to do these well. Take up first the work in which the pupils are most interested and which relates most closely to their home environment and requirements. Work with definite purpose, and results will justify the time and effort and commend the work to the patrons if it is useful education and adapted to home life.

Organization.

All that has been said about organization applies equally in the matter of girls' clubs. There exists the same perfectly organized agencies running from the individual girl in the remotest rural school all the way through the county and State up to the U. S. Department of Agriculture, in Washington. And the same sources of encouragement and help are available to the girls as to the boys. Some of the best help and information is easily available in the shape of bulletins which may be had for the asking.

One Plan Suggested.

Organize a club as previously suggested. Determine upon the line of work to be undertaken. (We assume that it is cooking.) Agree upon some simple article of every day use in all homes. Discuss recipes, uses, etc. Finally adopt by vote one or two approved best recipes, and let each member record in memorandum. Before next meeting of club let all try out the adopted recipes in their home kitchens (Domestic Science Laboratories). Improve upon them by additional information from any sources. Bring samples to next club meeting and compare results. After further discussion adopt revised approved recipes, and *record in permanent memorandums,* using pen and ink. (Future cook-books.) When satisfactory results have been attained take up some other article of common use and proceed similarly. Get help from every possible source, and occasionally invite patrons and citizens to club meetings and exhibits. Elect some of the best cooks in the community "honorary instructors." The teacher should soon become proficient in the ART, if not in the science.

The chief objections usually urged against domestic science in the common schools are, (1) a lack of preparation on the part of the teacher; (2) already overcrowded curricula. The plan suggested fully answers the first; and if better cooking is vital to better living what matter if some less important school work is crowded out. Perhaps no other branch as commonly taught in our common schools can add more to the comfort and happiness of homes than domestic science.

(Another equally practical plan that has proven very popular and successful in some Western States is known as the "Crete Plan." For information write the Department of Public Instruction, Lincoln, Neb.)

Cooking (And Serving).

"Cookery means the knowledge of Medea and Circe and of Helen and the Queen of Sheba. It means the knowledge of all herbs and fruits and balms and spices, and all that is healing and sweet in the fields and groves and savory in meats. It means carefullness and inventiveness and willingness and readiness of appliance. It means the economy of your grandmothers and

the science of the modern chemist; it means much testing and no wasting; it means English thoroughness and French art and Arabian hospitality; and, *in fine,* it means that you are perfectly and always ladies."—*Ruskin.*

Emphasize four essentials:

1. Neatness in personal appearance.
2. Cleanliness of utensils.
3. Economy in the use of materials and fuel.
4. Exactness in measurements.

Teach the use of the fireless cooker, cookery paper bags, and other improved and labor saving devices. Intelligence banishes drudgery. Give much attention to the nutritive and economic value of foods. Emphasize the neatness and attractive form in which school lunches are put up.

Recipes.

Only intended to be suggestive. Secure others from any sources. Keep them carefully recorded.

Golden Corn Cake.

(From Nebraska Corn Book.)

Three-fourths cup corn meal, 1¼ cup flour, ¼ cup sugar, 4 teaspoons baking powder, ½ teaspoon salt, 1 cup milk, 1 egg, 1 teaspoon melted butter.

Mix and sift the ingredients; add milk, egg well beaten, and butter; bake in shallow, buttered pan, in hot oven for twenty minutes.

(Vary above by changing proportions of flour and meal; also by using graham flour, and by leaving out sugar, etc.)

Light Bread.

(From Nebraska Bulletin No. 10.)

1 pt. scalded milk, 1 pt. boiling water, ¼ cup lard, 1 tablespoon salt, 1 tablespoon sugar, 3 qts. flour, 1 yeast cake in ¼ cup luke-warm water.

Pour boiling water over milk, lard, salt and sugar. When luke-warm, add dissolved yeast and 1 qt. flour. Beat until well filled with bubbles. Let rise over night. In morning add remaining flour, knead until light to touch. Let rise to double its

bulk. Knead, shape in loaves, let rise to one-half its bulk. Bake 50 minutes in hot oven, hot at first 15 minutes, then medium hot for remaining time.

Scrambled Eggs.

6 eggs, ½ cup milk, 2 tablespoons butter, ½ teaspoon salt, very little pepper. Beat eggs slightly with fork, add salt, pepper and milk. Heat pan, put in butter, and when melted, turn in the mixture.

Soups.

Use any good recipe for soup from vegetables. Add white sauce, as follows:

1 cup milk, 2 tablespoons butter, 2 tablespoons flour. Rub flour and butter to a smooth paste. Beat gradually into scalding milk. Season to taste.

Coffee.

1 cup coffee, 1 egg, ½ cup cold water, 6 cups boiling water. Scald coffee pot well. Put in ground coffee, egg, and cold water. Mix thoroughly with fork. Add boiling water. Bring gradually to boil. Settle with 2 tablespoons cold water. Strain and serve hot.

Potato Pudding.

(Mrs. Spain.)

2 cups grated sweet potatoes; 1 cup syrup; 1 cup sugar; ¾ cups sweet milk; 4 eggs, whipped together; 1 cup seeded raisins; 1 cup pecans; 1 teaspoon butter.

Flavor, bake and serve with whipped cream.

Canning, Pickling, Preserving.

Investigate the fundamental principles underlying the several methods of the preservation of fruits and vegetables and meats. The methods will not be thoroughly learned without some knowledge of the principles involved. Discover as many ways as possible for preserving from decay. How does canning help to solve the cost of living? How much usually goes to waste around the average farm home?

Write to Miss Mary E. Creswell, care State College of Agriculture, Athens, Ga., for advice and aid on this subject. Be sure to have exhibits at the Fairs next Fall.

Sewing, Etc.

This should be confined primarily to ordinary needlework. Make such articles as are needed and will be used by the pupils or members of their families. Let all work upon the same article at the same time, but vary the manner and style according to individual tastes. Discourage expensive materials, but put emphasis on expert work. Encourage exhibits and comparisons of work. Invite patrons to inspect and criticize.

Gardening.

(Flowers and Vegetables.)

There are no good reasons for a separation of the sexes in this work. Correlate with Nature Study; especially keep careful records, and give special attention to "profit and loss." Dr. Bailey has said that "Cabbages and potatoes, pedagogically presented, have as much cultural value as Latin and Greek."

All of the lessons and correlations suggested for boys' corn clubs, and many more, may be duplicated here.

Make out lists of vegetables that (A) are grown, (B) that may be profitably grown, in (1) Spring Gardens; (2) Summer Gardens; (3) Fall Gardens; (4) Winter Gardens.

Write for many seed catalogs as advertised in Farm papers. Make illustrated booklets involving all of the branches taught during the year. Grade them carefully as follows:

(1) Contents, 20 per cent; (2) Neatness, 20 per cent; (3) Originality, 20 percent; (4) Amount, 20 percent; (5) Arrangement, 20 percent.

Available Publications.

The following is a partial list of bulletins bearing especially upon the foregoing topics. They may be had upon request from the addresses given. Get in the habit of writing for bulletins upon any desired subject.

Corn.

Corn Culture, No. 88, Georgia Experiment Station, Experiment.
Corn Production, No. 93, Georgia Experiment Station. Experiment.

The Nebraska Corn Book, Department Public Iinstruction, Lincoln, Neb.

Corn and Its Uses, Ill. Agricultural College, Urbana, Ill.

Methods of Planting Corn, No. 134, Experiment Station, Auburn, Ala.

The following from U. S. Department of Agriculture, Washington, D. C.

Corn Growing, Farmers' Bulletin, No. 199.

Production of Good Seed Corn, Farmers' Bulletin, No. 229.

Corn Culture in the South, Farmers' Bulletin, No. 81.

Food Value of Corn, Farmers' Bulletin, No. 298.

Germination of Seed Corn, Farmers' Bulletin, No. 253.

Boys' and Girls' Clubs, Farmers' Bulletin, No. 385.

School Lessons on Corn, Farmers' Bulletin, No. 409.

Corn Cultivation, Farmers' Bulletin, No. 414.

Seed Corn, Farmers' Bulletin, No. 415.

Testing Seeds in School, Farmers' Bulletin, No. 428.

Cotton.

Cotton Culture, Bul. No. 89, Ga. Experiment Station, Experiment, Ga.

Cotton Production, No. 94, Ga. Experiment Station, Experiment, Ga.

Cotton Growing and Judging, No. 6 and No. 9, Univ. of Ga., Athens, Ga.

Cotton Production, Bul. No. 111, Dept. of Commerce and Labor, Washington, D. C.

Birds Useful against Cotton Boll Weevil, Bul. No. 57.

Domestic Science.

Bread Making, Bulletin No. 112, United States Department of Agriculture, Washington.

The following Farmers' Bulletins, United States Department of Agriculture, Washington:

Cereal Breakfast Foods, Bulletin No. 249; Bread and Bread Making, Bulletin No. 389; Preparation of Vegetables, Bulletin No. 256; Uses of Fruits for Food, Bulletin No. 293; Eggs and Their Uses as Food, Bulletin No. 128; Poultry as Food, Bulletin No. 182; Care of Food in the Home, Bulletin No. 375; the Home Vegetable Garden, Bulletin No. 255; Tomatoes, Bulletin No. 220;

Canning Vegetables at Home, Bulletin No. 359; Poultry Management, Bulletin No. 287; Canned Fruit, Preserves and Jellies, Bulletin No. 203; Nutrition and Economic Value of Foods, Bulletin No. 142; Housekeeping and Household Arts, Bulletin No. 35, Bureau of Education, Washington; Suggestions About Sewing, State Department of Education, Lincoln, Neb.; School Agriculture and Domestic Science, (Semi-monthly), Orange Judd Company, New York.

INTRODUCTION TO STUDY OF CIVIL GOVERNMENT.

The State establishes and pays for public schools for the purpose of making efficient citizens. It follows therefore, as a matter of course, that the nature of government and the part a citizen plays in it should be an important phase of all public school education. There is no need that all graduates of public schools should be learned in the science of Civics, as such; but there is great need that all who attend these schools be made into active, patriotic and intelligent participants in public affairs.

To this end, what the schools need to give is, first, a practical, usable knowledge of the way things are actually done in the affairs of government, of the functions of the various officers who do these things, and of the qualities that fit men for these positions; second, an understanding of the nature of taxes and the methods of collecting and spending them; and third a familiarity with extra-constitutional political machinery—parties, primaries, conventions, rings, bosses, etc. And then the schools should inculcate the compelling desire to exercise vigorously the privileges and duties of a citizen.

Thus to equip future citizens, it is not sufficient to give a general view of our constitutional system. It is worse than folly, for instance, to teach the constitutional method of electing a President without explaining that (and *how*) another system has in actual practice supplanted it. What the State most wants is not a knowledge of how our government was intended to run—how it might, could, would or should run, but of how it does run and how it might be made to run more effectively.

As to method of teaching, informal, first-hand, observation and discussion of the officers of the county or town—the Clerk of Court, the Mayor, etc.—is the most natural and at the same time the best. Along with the discussion of the duties of officers should come a discussion of the elements of fitness for these duties. And pupils should be taught properly to estimate the usual campaign reasons for asking for votes such as "oldtimer in the community," "sick," "cripple and unable to

work," "the other fellow has had it long enough," "you tickle me and I'll tickle you," and the potent argument of the jug! They should be taught to see the folly of retiring a competent officer to give place to an inexperienced one merely for the sake of a change. They should be made to realize the worse than folly of entrusting such offices as Tax Receiver for instance, to men whose only fitness is that they are unable to make a living otherwise.

Below, is given a systematic outline of our government. It is not intended that this outline should be a course of study in itself; it supplies the text headings only of such a course. Neither is it meant that the outline should be taken up in its own order. It is in this respect rather a check list of topics. The topics should be taken up in the order of the children's knowledge and interest (Elections offer excellent opportunities.); and the outline will show at any time how far one has gone in the field. R. H. P.

AN OUTLINE FOR THE STUDY OF THE CIVIL GOVERNMENT OF THE UNITED STATES.

BY ROLAND B. DANIEL, SUPERINTENDENT OF SCHOOLS, COLUMBUS, GEORGIA.

I.

INTRODUCTION.

A. Kinds of government.
   1. Civil.
   2. Military.

B. Forms of Civil Government.
   1. Monarchic.
   2. Aristocratic.
   3. Democratic.

C. The origin, the purpose, and the necessity of some form of government.

II.

LOCAL GOVERNMENT.

A. Forms.
   1. County.

2. Town or city.
3. Militia district.
4. School district.
5. Contrast between Southern county and New England township.
6. Relation of town militia district, and school district to county.
7. Relation of county to state.

B. Organization.
1. County boards and officers.
2. Officers of the town or city.
3. Officers of militia and school district.

C. Functions.
1. Administration of Law.
2. Collection and distribution of taxes.
3. Legislative powers.
4. Judicial powers.
5. Police power.
6. Public education.
7. Social and charity activities.
8. Indebtedness bonded and otherwise.
9. Construction and maintenance of public roads.
10. Citizens having right to vote and hold office.

TOPICS FOR DISCUSSION.

1. Municipal Ownership.
2. The Commission Plan of City Government.
3. Local Tax for Rural Public Schools.

NOTES The above outline contemplates not only a study of the officers of local government and their duties, but their eligibility, election or appointment, term of office and how they may be removed.

III.

STATE GOVERNMENT.

A. Establishment of the Colonies.
1. The three kinds of Colonial Government, (a) Charter, (b) Proprietary, (c) Royal. Characteristics of each.

2. How the change is made from Colonial to State Government.

B. The State Constitution—how, when and by whom may a State constitution be made and adopted.
   1. How constitution or parts of it may be repealed or amended.
   2. The initiative and referendum.
   3. The limitations of the State constitution.

C. Legislative Department.
   1. The two branches—Senate and House of Representatives.
   2. Number and qualifications of its members.
   3. Organization and procedure.
   4. How a bill may become a law.
   5. Veto power of the Governor.
   6. Limitations imposed by State constitution and Federal constitution.
   7. Sessions—how long and when held.

D. Executive Department.
   1. The Governor and the State House officers.
      (a) Qualifications and how elected.
      (b) Term of office.
      (c) Salary.
      (d) Powers and duties.
      (e) Eligibility to re-election.
   2. Provision for temporary and permanent successor in case of death, resignation or inability of governor.
   3. Relation of the State House officers to the Governor.
   4. Contrast between the Governor of a State and the President of the United States.

E. Judicial Department.
   1. Courts—justice courts, courts of ordinary, county and city courts, court of appeals, supreme court.
   2. Judges.
      (a) Qualifications.
      (b) Election or selection.
      (c) Term of office.

(d) Salaries.
(e) How vacancies may be caused and filled.
3. Jurisdiction of the several courts.
4. Other officers of the courts.
5. Juries—Grand and Petit.
(a) Duties.
(b) Judicial procedure.
(c) Qualifications of jurymen.
6. Parties to Action—plaintiff and defendant.
7. Kinds of Action—criminal and civil.
8. Trial of Criminal Case.
(a) Indictment by grand jury.
(b) Trial before petit jury.
9. Procedure in civil cases.

Topics for Discussion.

1. Compulsory Education in the State.
2. Improvement of Public Roads.
3. Reclamation of Waste Lands and Conservation of our Forests.
4. Child Labor Laws.
5. Maintenance of the Public School System of the State.

IV.

The Government of the United States.

A. Preliminary Steps.
1. Convention at Albany, 1754.
2. First Colonial Congress, 1765.
3. Continental Congress, 1774.
4. Continental Congress, 1775-1781.
5. Annapolis Convention, 1786.
6. Philadelphia Constitutional Convention, 1787.

B. Departments.

Senate

House of Representatives.

I. Legislative—Congress
a. Senate--a continuous body; one-third of its members go out every two years.

1. Membership.
    (a) Equal representation of the states.
    (b) Qualifications of members.
    (c) How chosen.
    (d) Term of office.
    (e) Compensation.
    (f) Filling of vacancies when state legislature not in session.
    (g) Privileges and immunities.
2. Organization.
    (a) Officers and their duties.
    (b) Committees and how selected.
    (c) Rules and customs.
    (d) Special powers.

b. House of Representatives.

1. Membership.
    (a) Number and distribution.
    (b) Qualifications.
    (c) How elected.
    (d) Term of office.
    (e) Compensation.
    (f) Privileges and immunities.
2. Organization.
    (a) Officers and their duties.
    (b) Selection of committees and their work.
    (c) Special powers.

Applicable to Both Houses.

a. Sessions.
    (1) Long and short.
    (2) Special sessions.
    (3) Convening and adjourning.
    (4) Record of proceedings.
    (5) Quorum.

b. Judge of election and qualifications of its members.

c. Punishment of members.

d. Course of a proposed bill.

Topics for Discussion.

I. Direct Election of Senators.

II. Executive—President and Cabinet.

a. President.

1. Qualifications.
2. Election.
3. Duties and powers.
4. Inauguration.
5. Oath.
6. Salary.
7. Term of office.
8. How office may be vacated.

Succession in event of vacancy.

b. Vice-President.

1. Qualifications.
2. How elected.
3. Duties.
4. When he may become President.
5. Compensation.

c. Cabinet.

1. Members.

(a) Qualifications.
(b) How chosen.
(c) How removed.
(d) Duties as heads of departments and as advisers to the President.
(e) Compensation.

Topics for Discussion.

1. The Spoils System.
2. Civil Service Reform.

III. Judicial.

a. District Courts.

1. How many and where.
2. Appointment of judges.

(a) Tenure of office.
(b) Compensation.

3. Times and places of sessions.
4. Officers.

b. Circuit Courts.
1. How formed.
2. Organization.

c. Circuit Courts of Appeal.
1. Purpose of formation.
2. Organization.

d. Supreme Court.
1. Supreme powers.
2. Chief and Associates.
(a) Qualifications.
(b) How and when appointed.
(c) Term of office.
(d) Salaries.
3. Sessions.
4. Decisions.
5. Officers.

e. Court of Claims military, naval, consular, territorial and other special courts or tribunals

TOPICS FOR DISCUSSION.

1. Cases in which Federal Courts have Jurisdiction.
2. Supreme Court Passing on Constitutionality of Acts of Congress.
3. Chief Justice Presiding in Case of Impeachment Proceedings.

TERRITORIAL GOVERNMENT.

1. Classification and Organization:
Hawaii, Alaska, Porto Rica, Phillippines, Guam, Samoa, Canal Zone, District of Columbia.
2. Territorial power.
3. Representatives of territorial government.
4. Two methods of admitting territories as states.

CITIZENSHIP.

1. Dual nature.
2. How it may be acquired.
a. By birth.

b. By marriage.
c. By annexation.
d. By naturalization.

3. Citizenship forfeited and restored.

Political Parties.

1. Importance.
2. Functions.
3. Origin and History.
4. Methods of obtaining will of the party.
   a. Party primary.
   b. Local conventions.
   c. Petition.
5. Party procedure in State elections.
6. Party procedure in National elections.

Elections.

1. Offices, State and National.
2. Qualifications for voting.
3. Registration of voters.
4. Election districts.
5. Conduct of elections.
6. Counting the ballots.
7. Announcing and recording the returns.

Topics for Discussion.

1. Educational Qualification for Voters.
2. Woman Suffrage.
3. Federal Interference with Elections.

Books referred to in the preparation of this outline.

"Elements of Civil Government," Peterman.

"Government and Politics in the United States," Guitteau.

"Outline for the Study of American Civil Government in Secondary Schools," by a committee of the New England History Teachers Association.

PROGRAM FOR INSTITUTE WORK.

F. E. Land, C. S. Parrish, M. L. Duggan.

First Day.

9:00— 9:15	Devotional Exercises.
9:15— 9:30	Announcements.
9:30—10:30	Lecture: The Nature of Education.
10:30—10:45	Recess and Consultation with Teachers.
10:45—12:00	Class Work: The Teaching of Common School Subjects.
12:00— 2:00	Dinner Recess.
2:00— 2:30	School Houses and Grounds.
2:30— 3:30	Class Work: The Teaching of Common School Subjects.*
3:30— 4:00	School Conditions in the County: A Round Table.
8:00 P. M.	Entertainment Arranged by Community.

*The order of subjects discussed to be determined for each Institute.

Second Day.

9:00— 9:15	Devotional Exercises.
9:15— 9:30	Announcements.
9:30—10:30	The Teacher, His Character, His Preparation, His Attitude, His Relation to His Pupils, His Relation to the Community.
10:30—10:45	Recess.
10:45—12:00	Class Work: The Teaching of Common School Subjects.
12:00— 2:00	Dinner Recess.
2:00— 2:30	School Houses and Grounds.
2:30— 3:30	Class Work: The Teaching of Common School Subjects.
3:30— 4:00	Community Conditions in the County: A Round Table.
8:00 P. M.	Lecture. Public Specially Invited.

Third Day.

9:00— 9:15	Devotional Exercises.
9:15— 9:30	Announcements.
9:30—10:30	Place of Industries in the Course of Study.

10:30—10:45	Recess.
10:45—12:00	Home Conditions in the County. A Round Table.
12:00— 2:00	Dinner Recess.
2:00— 2:30	Seatwork in the School.
2:30— 3:30	Class Work: The Teaching of Common School Subjects.
3:30— 4:30	A Conference with Women's Clubs or Similar Organizations in the Community.

FOURTH DAY.

9:00— 9:15	Devotional Exercises.
9:15— 9:30	Announcements.
9:30—10:30	School Health and Sanitation.
10:30—10:45	Recess.
10:45—12:00	Classroom Work: The Teaching of Common School Subjects.
12:00— 2:00	Dinner Recess.
2:00— 2:30	Seatwork Continued.
2:30— 3:30	Class Work: The Teaching of Common School Subjects.
3:30— 4:30	School Conditions: Relation of Country to Town.
8:00 P. M.	Entertainment by Teachers.

FIFTH DAY.

9:00— 9:15	Devotional Exercises.
9:15— 9:30	Announcements.
9:30— 9:45	Recess.
9:45—12:00	Class Work: The Teaching of Common School Subjects.
12:00— 2:00	Dinner Recess.
2:00— 2:30	Home Work in Domestic Science.
2:30— 3:30	Class Work: The Teaching of Common School Subjects.
3:30— 4:00	The Relations of Patrons to the School—Patrons Invited.

It is earnestly desired that the County Superintendent arrange at some time convenient to all, a conference with boards of trade, women's clubs, the organization of county school officials (Board members, district trustees, etc.), physicians, ministers, and others.

OUTLINE FOR STUDY OF SCHOOL AND COMMUNITY CONDITIONS.

School.

1.

General Conditions.

(a) How many teachers in the school?
(b) How many grades have you?
(c) How many recitations have you per day?
(d) Suggest means of improvement.

2.

Enrollment and Attendance.

(a) How many pupils have you enrolled?
(b) What is the average attendance?
(c) Give number of children in district not in school.
(d) What are the chief causes of absence?
(e) What have you done to remedy this condition? What can be done?

3.

Physical Condition of School House and Grounds.

(a) State size of grounds.
(b) State location and topography of grounds.
(c) State utilization of grounds, play-ground, flower beds, etc

4.

School House.

(a) Is the building brick, frame, or constructed of logs?
(b) State external condition, paint, steps, etc.
(c) Is it open or closed underneath?
(d) Tell of doors, locks, window panes, etc.
(e) Describe internal condition; ceiled or plastered, height of ceiling, heating, ventilation, lighting, window space.

5.

Equipment.

(a) Are the seats patent or home-made, single or double?
(b) Give amount and kinds of black-boards, erasers, crayon, globes, and charts.
(c) Tell of the Library—number of books, how obtained.
(d) Tell of the Pictures—kind, how used, how obtained.

6.

Care of School House.

(a) How often swept and how?
(b) How dusted—damp or dry?
(c) Windows—how often washed?

7.

Drinking Water.

What Source? Where and how kept? How supplied to children?

8.

Care of Grounds.

(a) Drainage.
(b) Fence or no fence.
(c) Care of flower beds, trees and shrubbery—by whom?

9.

Outhouses.

(a) How many? Who has the responsibility for their care?
(b) Give location with regard to house. With regard to water supply.
(c) Is there any protection from flies?

10.

Course of Study.

How much attention is paid to the following:
(a) Domestic Science.
(b) Manual Training.
(c) Agriculture.

(d) Physical Culture.
(e) Nature Study.
(f) Literature.
(g) Music.

11.

Play of Children.

(a) Is it supervised or not?
(b) What games are preferred? (Football, baseball, basket ball, tennis, etc.)

12.

Relation of Teacher to Community.

(a) What aid do parents give?
(b) Is this aid organized?
(c) What are you doing to organize?
(d) What efforts are made by teacher to stimulate better social life in the community?

COMMUNITY.

1.

Land Ownership.

(a) How many resident land owners in your district? White? Colored?
(b) How many white tenants? Colored tenants?
(c) What number of land owners children in the district? In school?
(d) What number of tenants' children in district? In school?
(e) What is the approximate yield of corn and cotten per acre on white land owners' farms? Negro land owners' farms?
(f) What is the approximate yield of corn and cotton per acre made by white tenants? Negro tenants?

2.

Gardening.

(a) How many have all the year round gardens? How many spring gardens?

(b) List of vegetables grown in gardens in spring, summer, autumn, winter?

3.

Other Farm Industries.

(a) Is there fruit and nut culture?
(b) Is there live stock?
(c) Is there poultry culture?
(d) Is there dairying?
(e) Is there berry culture?

4.

Other Industries.

What industries in the vicinity?
(a) Lumbering?
(b) Naval stores?
(c) Quarrying?
(d) Mining?
(e) Factories?
(f) Merchandising?
(g) Bee culture?

5.

Homes.

Report on—
(a) Architecture.
(b) Yards.
(c) Conveniences.
(d) Interior decoration.
(e) Exterior decoration.
(f) Sanitation.
(g) Libraries, periodicals, musical instruments.

6.

Social Relations.

(a) What number of pupils from your community attend high school? College?
(b) To what extent is the school used as a social center?
1. For literary purposes?
2. For social?

3. For political?
4. For religious?

7.

Forms of Social Amusement.

(a) What games, athletic meets for the young people?
(b) Parties—forms of entertainments?
(c) Clubs—corn, domestic, science, literary, home and school?

8.

What share has the teacher in various phases of community life?

DAYS TO BE OBSERVED BY APPROPRIATE EXERCISES.

I. ARBOR DAY.

FOREWORD.

The laws of the State require us to observe Arbor Day and it is therefore, recommended that this occasion be utilized by the planting of trees, shrubs, and flowers and by directing attention to their value from economic as well as aesthetic reasons. The people of our country are beginning to realize the necessity for saving our forests, and it is to the interest of us all to plant and preserve the trees. Let us make this also a general "clean up" day, and aid in every way in improving the appearance of public and private grounds.

Sincerely yours,

M. L. BRITTAIN,
State Superintendent of Schools.

SUGGESTED PROGRAMME.

1. Song—America.
2. Essay—Forests and their Benefits.
3. Recitation—Ballad of Trees and the Master.
4. Essay—Noted Trees: The Charter Oak; The Washington Elm; The Lanier Oak; The Tree that Owns Itself, etc.
5. Recitation—The Cry of the Pines.
6. Essay—The Value of Birds.
7. Recitation by ten pupils—The American Forests.
8. Tree Planting.

OTHER TOPICS.

1. My Favorite Tree.
2. The Wild Flowers of Our State.
3. Flower Legends.
4. Legends About Trees.
5. Bird Ways.
6. How to Make Bird Houses.
7. School Gardens.
8. Home Gardens.

Of late years we have begun to realize the following truths:

1. Our trees are rapidly being cut down.

2. In consequence our streams are more subject to floods and in many places are drying up.

3. The soil is being rendered less fertile.

4. Insects destroy annually many millions of dollars in property.

5. Our native birds have decreased in number nearly one-half in the past fifteen years.

6. Therefore, it is to our own interest to save our trees and birds.

Selections.

A Ballad of Trees and the Master.

Into the woods my Master went,
Clean forspent, forspent.
Into the woods my Master came,
Forspent with love and shame.
But the olives they were not blind to Him,
The little gray leaves were kind to Him;
The thorn-tree had a mind to Him,
When into the woods He came.

Out of the woods my Master went,
And he was well content.
Out of the woods my Master came,
Content with death and shame.
When Death and Shame would woo Him last,
From under the trees they drew Him last:
'Twas on a tree they slew Him—last,
When out of the woods He came.

—*Sidney Lanier.*

The American Forests.

Arranged for a Class Exercise.

1. The forests of America, however slighted by man, must have been a great delight to the Creator, for they were the best He had ever planted. The whole continent was a garden, with the largest, most varied, most fruitful, and most beautiful trees in the world.

2. Bright seas made its border, gray deserts were outspread in the middle of it, mossy tundras on the north, savannas on the south, and blooming prairies and plains; while lakes and rivers shone through all the vast forests and openings, and happy birds and beasts gave delightful animation. Everywhere, over all the blessed continent, there were beauty and melody, and kindly, wholesome food abundance.

3. These forests were composed of about five hundred species of trees, all of them in some way useful to man, ranging in size from twenty-five feet in height and less than one foot in diameter at the ground, to four hundred feet in height and more than twenty feet in diameter—lordly monarchs proclaiming the gospel of beauty like apostles.

4. For many a century after the ice-floes were melted, nature fed them and dressed them every day; working like a man, a loving, devoted, painstaking gardener; fingering every leaf and flower and mossy furrowed bole; bending, trimming, modeling, balancing, painting them with the loveliest colors; bringing over them, now clouds with cooling shadows and showers, now sunshine; fanning them with gentle winds and rustling their leaves; exercising them in every fibre with storms, and pruning them; loading them with flowers and fruit, loading them with snow; and ever making them more beautiful as the years rolled by.

5. The Indians, with stone axes, could do them no more harm than could gnawing beavers and browsing deer. But when the steel axe of the white man rang out their doom was sealed.

6. In the settlement and civilization of the country, bread more than timber or beauty, was wanted; and in the blindness of hunger, the early settlers, claiming Heaven as their guide, regarded God's trees as only weeds, extremely hard to get rid of.

7. Accordingly, with no eye to the future, these destroyers waged forest wars; chips flew thick and fast; trees in their beauty fell crashing by millions, smashed to confusion, and the smoke of their burning has been rising to Heaven more than two hundred years.

8. After the Atlantic coast, from Maine to Georgia, had been mostly cleared and scorched into ruins, the multitude of bread and money seekers, poured over the Alleghenies into the fertile Middle West, spreading devastation ever wider and farther

over the rich valley of the Mississippi and the vast, shadowy pine region about the Great Lakes.

9. Thence still westward the invading hordes of settlers made its fiery way over the broad Rocky Mountains, felling and burning more fiercely than ever, until at last it reached the wild side of the continent, and entered the last of the great aboriginal forests on the shores of the Pacific.

10. Surely, then, it should not be wondered at that lovers of their country, bewailing its baldness, are now crying aloud: "Save what is left of the forests." Every other civilized nation in the world has been compelled to care for its forests, and so we must, if waste and destruction are not to go on to the bitter end, leaving America as barren as Palestine or Spain.

JOHN MUIR.

DRAPER'S "TEN COMMANDMENTS" ON TREE PLANTING.

1. Do not allow roots to be exposed to the sun, drying winds, or frost.

2. Prune, with a sharp clean cut, any broken or injured roots.

3. Have the holes large enough to admit all the roots without cramping.

4. Plant in fine loam, enriched with thoroughly decomposed manure.

5. Do not allow any green unfermented manure to come in contact with the roots.

6. Spread out the roots in their natural position and work fine loam among them, making it firm and compact.

7. Do not plant too deep. Let upper roots be set an inch lower than before.

8. Remove all broken branches, and cut back at least one-half of the previous year's growth of wood.

9. If the season lacks the usual rainfall, water thoroughly twice a week.

10. After-culture. Keep soil in a good degree of fertility. Mulching the trees in autumn with manure is beneficial.

PRESIDENT ROOSEVELT says:

"The lesson of deforestation in China is a lesson which mankind should have learned many times already from what has occurred in other places. Denundation leaves naked soil, then

gullying cuts down to the bare rock; and meanwhile the rock-waste buries the bottom lands. When the soil is gone, men must go; and the process does not take long.

"This ruthless destruction of the forests in northern China has brought about, or has aided in bringing about, desolation, just as the destruction of the forests in central Asia aided in bringing ruin to the once rich central Asian cities; just as the destruction of the forests in northern Africa helped towards the ruin of a region that was a fertile granary in Roman days. Short-sighted man, whether barbaric, semi-civilized, or what he mistakenly regards as fully civilized, when he has destroyed the forests, has rendered certain the ultimate destruction of the land itself. In northern China the mountains are now absolutely barren peaks. Not only have the forests been destroyed, but because of their destruction the soil has been washed off the naked rock. The terrible consequence is that it is impossible now to undo the damage that has been done. Many centuries would have to pass before soil would again collect, or could be made to collect, in sufficient quantity once more to support the old time forest growth.

"It is especially important that we of the South learn this great lesson of forest preservation, for the forests constitute a great portion of our wealth and we have seemed to consider them inexhaustible, or as a concern of nature alone. We must realize that the reckless, wasteful methods of the past will not longer do, that the forests are to be protected and conserved and perpetuated just as is the fertility of our soils."

Some Notable Trees.

The Charter Oak at Hartford which preserved the written guarantee of the liberties of the Colony of Connecticut.

The Elm Tree at Cambridge in the shade of which Washington first took command of the Continental army.

The Lanier Oak of Brunswick, Ga., under which it is said Sydney Lanier wrote "The Marshes of Glynn" and other famous poems.

"The Tree that owns itself." This is in Athens, Ga. It was owned by Col. W. H. Jackson and, hoping to save it from the

axe of the woodmen, he had a deed recorded as follows: "For and in consideration of the great love I bear said tree (giving its location) and a great desire that said tree be protected for all time, I convey to said oak tree entire possession of itself and all land within eight feet of it on all sides."

THE LANIER OAK.

California is noted as a land of wonderful trees, and Mariposa Grove is known far and wide as "The Big Tree Country." "Wawona," sometimes called "The Tunnel Tree," has a roadway cut through the solid heart which is 27 feet through, ten feet high and ten feet wide. The Grizzly Giant redwood contains enough lumber to build a box that would enclose the Masonic Temple of Chicago. According to actual measurement the girth of this tree at a height of five feet from the ground is 98 feet 10 inches.

THE CRY OF THE PINES.

Listen, the great trees call to each other,
"Is it come your time to die, my brother?"
And through the forest, wailing and moaning,
The hearts of the pines in their branches groaning—
"We die, we die!"

"We, who have watched the centuries dying,
The span of years as an arrow flying,
Ages seeming a day and a morrow;
Lo, we have reached the time of our sorrow—
"We die, we die!"

"We, who have stood with our ranks unbroken,
Breasting the storms, a sign and a token
That the gale must cease, and the wild waves staying,
Man, we shielded, is come and is slaying—
"We die, we die!"

"Flaying the bark, and our bodies baring,
Like dim white ghosts in the moonlight staring,
Naked we stand, with the life-sap welling—
Tears of resin to gather for selling—
"We die, we die!"

"Over the land are the forests dying,
One piece of silver a tree-life buying,
Listen, the great trees moan to each other—
"The axe has scarred us, too, my brother—
"We die, we die!"

—*Anne McQueen.*

Economic Value of Birds.

Wide interest is at present being taken in the protection and preservation of our nation's forests, woodlands, trees, lakes and streams generally. But the people are slow to realize how important is the role of the insectivorous bird as a useful helpmate to mankind, in its capacity as a destroyer of injurious insects, noxious mammals and worthless weeds. The value of our feathered friends to agriculture and forestry is inestimable. Of all migratory birds known in this country, not more than 20 per cent are game birds, the other 80 per cent being insectivorous. It is estimated by actual experiments that birds of our nation save the farmer $200,000,000 annually in the destruction of noxious insects and noxious weeds.

Does it pay to protect the birds? Mr. H. W. Henshaw, administrative assistant, Biological Survey, writes on this question in the following manner: "As objects of human care and interest birds occupy a place filled by no other living things, and the various movements to protect and foster them would be fully justified were there no returns other than esthetic. Only the thoughtless and the ignorant still hold that the graceful forms

and beautiful plumage of these masterpieces of nature serve their highest purpose when worn on a hat for a brief season, to be then cast aside and forgotten, the plumage dimmed and faded, the beautiful songs quenched forever."

Could we increase the number of birds but one per cent, a vast sum might be saved. In many States there is little hope of success and we may safely aver that all the damage done by pests and the financial loss experienced is largely due to the disgraceful destruction of bird life.

When we consider that birds are of the greatest economic value to man and that the numbers of many species are decreasing with alarming rapidity, it is up to man—the bird's worst enemy—to rectify his evils of the past and resort to such means and measures as shall prevent chaos and calamity in the agricultural world.

A. G. RAETH.

II. GEORGIA DAY.

SUGGESTIVE PROGRAM.

1. Song by School—America.
2. Declamation—"Breathes there, etc."
3. Reading—James Edward Oglethorpe.
4. Recitation—"Georgia."
5. Essay—The History of Georgia.
6. Essay—Georgia's part in the Revolution and in the War between the States.
7. Essay—Some of Georgia's notable men and women.
8. Song by School—Dixie.

GEORGIA IN OUTLINE.

On February 12, 1733, General James Edward Oglethorpe with 126 persons landed at Savannah, and named the new state for King George II. Originally the limits of Georgia extended to the Mississippi River and included the territory now embraced in Alabama and Mississippi. At this time the state was occupied by Indians—Creeks or Muscogees in the southern part and

Cherokees in the northern. Tomichichi, the Indian chief, received the white people kindly and giving Oglethorpe a buffalo robe with an eagle painted upon it said, "The feathers are soft and signify love; the buffalo skin is warm and means protection. Therefore, we ask you to love and protect our little ones." Later some German immigrants, called Salzburgers, driven from their homes by persecution, settled a few miles above Savannah. After the Revolution many came from Virginia and North Carolina, some of them being granted tracts of land by the Government for services in that great struggle. These were chiefly English and Scotch Irish who have always constituted the main elements of the white population. Georgia was one of the thirteen original states taking an active part in the war for freedom which the colonies waged against England. In 1861 she seceded from the Union and furnished a large number of soldiers to the Confederacy. The battles of Chickamauga, Kennesaw Mountain, and Atlanta were important contests fought on her soil.

Georgia has an area of 59,475 square miles of which 495 are water, and is the largest state east of the Mississippi. There are three distinct divisions, north, middle, and south Georgia. The highest mountains are in Towns County, Sitting Bull having an elevation of 5,046 feet above sea level and Mona 5,039 feet. Stone Mountain, 16 miles from Atlanta, is a solid mass of granite 1,688 feet high. There are nine climate belts found in the United States and eight of these are represented in Georgia. In the northern part of the state the average July temperature is from 75 to 80 degrees and in the southern from 80 to 85 degrees. The average rainfall is 49 inches, the highest at Rabun Gap and lowest at Swainsboro.

The soil is generally fertile. In the middle section it is usually red and in the southern sandy. Texas is the only state in the union which produces more cotton. Georgia watermelons, peaches, sugar cane and other agricultural products are widely known. In the southern part of the state there are large forests of long leaf pine which furnish excellent lumber, turpentine, and resin. The northern section has considerable mineral resources; gold, iron, aluminum, marble, slate, and even precious stones are found in several counties.

The census of 1910 shows a total population of 2,609,121.

Largely an agricultural state, the majority of her people taking part in this industry, Georgia stands in the front rank of the southern states in manufacturing. The largest cotton mills are at Augusta and Columbus, which are near the extremes of the "fall line" which separates the middle from the southern section. The largest cities in the state are Atlanta, Savannah, Augusta, Macon and Columbus. There are 146 counties. She has colleges of note for both men and women and besides many high schools, each congressional district has one devoted especially to training in agriculture. The state appropriates over two and a half millions to the education of her children, and this sum is supplemented in all the cities and towns and in many of the counties. There are three departments of government: Legislative, Executive, and Judicial. The Legislative consists of the Senate and House of Representatives, forming the General Assembly. The Executive Department is composed of the Governor, Secretary of State, State Treasurer, Comptroller General, Commissioner of Agriculture, State School Superintendent, Attorney General, Pension Commissioner, Railroad Commission, Prison Commission, Adjutant General.

The Judicial Department consists of the Supreme Court of six members and the Appellate Court of three.

The roll of her great men and women is long. Some of those who have been in the cabinets of the National and Confederate governments are: Habersham, Crawford, Forsyth, Cobb, Gordon, Brown, Smith, Crisp, Stephens and Toombs. Perhaps the leading figure of the State in many ways during the period since the war was Henry W. Grady.

Some of the reference books in which material for Georgia Day may be found are as follows:

Evan's History of Georgia.
Smith's History of Georgia.
Harris's Stories of Georgia.
Massey & Wood's Story of Georgia.
The South in History and Literature.
Knight's Reminiscences of Famous Georgians.
Jones' History of Georgia.
Men of Mark in Georgia.

Breathes there the man, with soul so dead,
Who never to himself hath said,
This is my own, my native land?
Whose heart hath ne'er within him burned
As home his footsteps he hath turned
From wandering on a foreign strand?
If such there breathe, go, mark him well;
For him no minstrel raptures swell;
High though his titles, proud his name,
Boundless his wealth as wish can claim,
Despite those titles, power, and pelf,
The wretch, concentrated all in self,
Living, shall forfeit fair renown,
And, doubly dying, shall go down
To the vile dust from whence he sprung,
Unwept, unhonored, and unsung.

—*Sir Walter Scott.*

GEORGIA.

I would I had the power of presenting with the brevity which becomes an occasion like this a worthy ideal of Georgia, the land of my love! But not as she lies upon the map, stretching from the mountains to the ocean, dear as she must be to her sons in all her variegated features; in her mountains and her valleys, in her rivers and her cataracts, in her bare red hills and her broad fields of rustling corn and of cotton snowy white; in her vast primeval forests that roll back in softer cadence the majestic music of the melancholy sea, and, last, but not least, in our own beautiful but modest Savannah, smiling sweetly through her veil of perennial and yet of diversified green. It is not the Georgia of the map I would invoke before you to-night. I would conjure up if I could the Georgia of the soul—majestic ideal of a sovereign State, at once the mother and queen of a gallant people—Georgia as she first pressed her foot upon these western shores and beckoned hitherward from the elder world the poor but the virtuous, the oppressed but the upright, the unfortunate but the honorable; adopting for herself a sentiment far nobler than all the armorial bearings of "starred and spangled courts where low-born baseness

wafts perfume to pride"; taking for her escutcheon the sentiment: Poverty and virtue! Toil and be honest!

* * * * * * *

When the winter of our discontent was resting heavily, gloomily upon us; at the holiest hour of the mysterious midnight, a vision of surpassing loveliness rose before me: Georgia, my native State, with manacled limbs and disheveled locks and tears streaming from weary eyes, bent over a mangled form which she clasped, though with convulsed and fettered arms, to her bosom. And as I gazed the features of the blood-stained soldier rapidly changed. First, I saw Bartow and then I saw Gallie and then I saw Cobb, and there was Walker and Willis and Lamar; more rapid than light itself successively flashed out the wan but intrepid features of her countless scores of dying heroes, and she pressed them close to her bosom and closer still and yet more close until, behold! she had pressed them all right into her heart! And quickly, as it were, in the twinkling of an eye, the fetters had fallen from her beautiful limbs and the tears were dried upon her lovely cheeks and the wonted fires had returned to her flashing eyes and she was all of Georgia again; an equal among equals in a union of sovereignties. Yes! the Georgia of Oglethorpe, the Georgia of 1776, the Georgia of 1860, is the Georgia of to-day; is Georgia now, with her own peculiar memories and her own peculiar hopes, her own historic and heroic names and her own loyal sons and devoted daughters; rich in resources, intrepid in soul, defiant of wrong as ever she was. God save her! God save our liege sovereign. God bless Georgia, our beloved queen! God save our only queen!

General Henry R. Jackson.

On several of the days which are to be observed by appropriate exercises, the schools are not usually in session. On January 19, Lee's birthday, and February 22, Washington's birthday, however, this is not generally the case and there should be special exercises in honor of these two great men. The following are given as examples of suggestive programs:

III. Lee's Birthday.

1. Welcome address.
2. Declamation—Sword of Lee.
3. Essay—General Lee as a Man.
4. Essay—General Lee as a Soldier.
5. Recitations—Virginians of the Valley.
6. Song—Bonnie Blue Flag.

IV. Washington's Birthday.

1. Song—Star Spangled Banner.
2. Declamation—The American Flag.
3. Essay—Washington as a General.
4. Essay—Washington as a Statesman.
5. Recitation—Eulogy on Washington.
6. Song—America.

Selections.

Robert Edward Lee was born in Stratford, Westmoreland County, Virginia, January 19, 1807, and died in Lexington, Virginia, October 12, 1870. He was a graduate of West Point Military Academy. He was appointed second lieutenant of engineers after his graduation in 1829, and was assigned to duty in Hampton, Virginia. From 1834 to 1837 he was in Washington, assistant to the chief engineer. He became captain of engineers after a year in St. Louis, where he was engaged in superintending the improvement of the Mississippi. He served in the Mexican war under General Scott; then for three years was stationed at Baltimore, becoming superintendent of the Academy at West Point in 1855. At the end of this time he was ordered to Texas, to take command of the forces against the Indians. During leave of absence he commanded the troops which suppressed the John Brown raid in 1859. In 1861 he resigned as Colonel in the United States army, and later became commander-in-chief of the Confederate army. Several months after the close of the Civil war, he became president of Washington College (Now Washington and Lee University).

Thompson's History of the United States.

The Sword of Robert Lee.

Forth from its scabbard pure and bright
Flashed the sword of Lee!
Far in the front of the deadly fight,
High o'er the brave in the cause of Right,
Its stainless sheen, like a beacon light,
Led us to victory.

Out of its scabbard, where, full long,
It slumbered peacefully,
Roused from its rest by the battle's song,
Shielding the feeble, smiting the strong,
Guarding the right, avenging the wrong,
Gleamed the sword of Lee.

Forth from its scabbard, high in the air
Beneath Virginia's sky;
And they who saw it gleaming there,
And knew who bore it, knelt to swear
That where that sword led they would dare
To follow—and to die.

Out of its scabbard! Never hand
Waved sword from stain as free,
Nor purer sword led braver band,
Nor braver bled for brighter land,
Nor brighter land had a cause so grand,
Nor cause a chief like Lee.

Forth from its scabbard! how we prayed
That sword might victor be;
And when our triumph was delayed,
And many a heart grew sore afraid,
We still hoped on while gleamed the blade
Of noble Robert Lee.

Forth from its scabbard all in vain,
Forth flashed the sword of Lee;
'Tis shrouded now in its sheath again,
It sleeps the sleep of our noble slain,
Defeated, yet without a stain,
Proudly and peacefully.

Abram Joseph Ryan.

Virginians of the Valley.

The Knightliest of the Knightly race,
That since the days of old
Have kept the lamp of chivalry
Alight in hearts of gold.
The kindliest of the kindly band
That rarely hating ease,
Yet rode with Raleigh round the land,
With Smith around the seas.

Who climbed the blue embattled hills
Against uncounted foes,
And planted there, in valleys fair,
The Lily and the Rose!
Whose fragrance lives in many lands,
Whose beauty stars the earth;
And lights the hearths of happy homes
With loveliness and worth!

We thought they slept! the men who kept
The names of noble sires,
And slumbered while the darkness crept
Around their vigil fires!
But aye the golden horseshoe Knights
Their Old Dominion keep,
Whose foes have found enchanted ground,
But not a knight asleep.

Francis Orrery Ticknor.

America.

My country! 'tis of thee
Sweet land of liberty,
Of thee I sing;
Land where my fathers died!
Land of the Pilgrim's pride!
From ev'ry mountain side
Let freedom ring.

My native country, thee—
Land of the noble free—
Thy name I love;
I love thy rocks and rills,
Thy woods and templed hills;
My heart with rapture thrills
Like that above.

Let music swell the breeze,
And ring from all the trees,
Sweet freedom's song;
Let mortal tongues awake;
Let all that breathe partake;
Let rocks their silence break,
The sound prolong.

Our fathers' God! to Thee,
Author of liberty,
To Thee we sing;
Long may our land be bright
With freedom's holy light;
Protect us by Thy might,
Great God, our King.

Smith.

The Star Spangled Banner.

Oh! say can you see, by the dawn's early light,
What so proudly we hailed at the twilight's last gleaming;
Whose broad stripes and bright stars through the perilous fight
O'er the ramparts we watched, were so gallantly streaming?
And the rocket's red glare, the bombs bursting in air,
Gave proof through the night that our flag was still there;
Oh, say, does that star-spangled banner yet wave
O'er the land of the free and the home of the brave?

On the shore, dimly seen through the mists of the deep,
Where the foe's haughty host in dread silence reposes,
What is that which the breeze o'er the towering steep
As it fitfully blows, half conceals, half discloses?

Now it catches the gleam of the morning's first beam;
Its full glory reflected now shines on the stream;
'Tis the star-spangled banner! Oh! long may it wave
O'er the land of the free and home of the brave!

And where is the band who so vauntingly swore,
Mid havoc of war and the battle's confusion,
A home and a country they'd leave us no more?
Their blood hath washed out their foul footsteps' pollution;
No refuge could save the hireling and slave
From the terror of flight, or the gloom of the grave,
And the star-spangled banner in triumph doth wave
O'er the land of the free and the home of the brave!

Oh! thus be it ever, when freemen shall stand
Between their loved home and the war's desolation;
Blessed with victory and peace, may the Heaven-rescued land
Praise the Power that hath made and preserved us a nation.
Then conquer we must, for our cause it is just,
And this be our motto, "In God is our trust";
And the star-spangled banner in triumph shall wave
O'er the land of the free and the home of the brave!

Francis Scott Key.

Washington.

George Washington was born in Westmoreland County, Virginia, February 22, 1732, and died at his home, Mount Vernon, in Virginia, December 14, 1799. At the age of sixteen he left school to become a surveyor. When not much more than a boy, he showed his aptitude for military affairs. His early career is interwoven with the history of the country. He was the leader of her armies in the successful fight to secure freedom from British rule and the first of the long line of his country's presidents. Washington was a man of strong sense and sound judgment, of stainless character and unselfish patriotism. Firmness of purpose and devotion to duty guided him through his eventful life. Reverses did not make him despair, nor did success make him over-confident. During the darkest hours of war, when slander and intrigue were busy against him, he remained stead-

fast. The successful Revolution exalted him above all others of his countrymen, and he might have grasped power for himself, but he was still a firm devoted patriot. His character is not surpassed by that of any hero in history.

Adapted.

The American Flag.

When freedom, from her mountain height,
    Unfurl'd her standard to the air,
She tore the azure robe of night,
    And set the stars of glory there!
She mingled with its gorgeous dyes
The milky baldric of the skies,
And striped its pure celestial white
With streakings of the morning light;
Then, from his mansion in the sun,
She call'd her eagle bearer down,
And gave into his mighty hand
The symbol of her chosen land!

Flag of the brave! thy folds shall fly,
The sign of hope and triumph high!
When speaks the signal trumpet-tone,
And the long line comes gleaming on
(Ere yet the lifeblood, warm and wet,
Has dimm'd the glist'ning bayonet),
Each soldier's eye shall brightly turn
To where thy meteor-glories burn,
And, as his springing steps advance,
Catch war and vengeance from the glance!
And when the canon-mouthings loud
Heave in wild wreaths the battle shroud,
And gory sabers rise and fall,
Like shoots of flame on midnight's pall
There shall thy victor-glances glow,
    And cowering foes shall sink beneath
Each gallant arm that strikes below
    That lovely messenger of death.

Flag of the seas! On ocean's wave
Thy star shall glitter o'er the brave;
When Death, careering on the gale,
Sweeps darkly round the bellied sail,
And frightened waves rush wildly back
Before the broadside's reeling rack,
The dying wanderer of the sea
Shall look, at once, to heaven and thee,
And smile, to see thy splendors fly,
In triumph, o'er his closing eye.
Flag of the free heart's only home,
By angel hands to valor given!
Thy stars have lit the welkin dome
And all thy hues were born in heaven!
Forever float that standard sheet!
Where breathes the foe but falls before us?
With Freedom's soil beneath our feet,
And Freedom's banner streaming o'er us!

Joseph Rodman Drake.

EULOGY ON WASHINGTON.

First in war, first in peace, and first in the hearts of his countrymen, he was second to none in the humble and endearing scenes of private life. Pious, just, humane, temperate, sincere, uniform, dignified, and commanding, his example was as edifying to all around him as were the effects of that example lasting.

To his equals he was condescending, to his inferiors kind, and to the dear object of his affections exemplarily tender. Correct throughout, vice shuddered in his presence, and virtue always felt his fostering hand. The purity of his private character gave effulgence to his public virtues.

His last scene comported with the tenor of his life. Although in extreme pain, not a sigh, not a groan escaped him; and with undisturbed serenity he closed his well-spent life. Such was the man America has lost! Such was the man for whom our nation mourns!

Methinks I see his august image, and hear falling from his venerable lips, these deep-sinking words:

"Cease, sons of America, to mourn our separation. Go on, and confirm by your wisdom the fruits of our knowing councils, joint effort, and common dangers. Reverence religion; diffuse knowledge throughout your land; patronize the arts and sciences; let liberty and order be inseparable companions; control party spirit, the bane of a free government; observe good faith to, and cultivate peace with, all nations; shut up every avenue to foreign influence; contract rather than extend national connection; rely on yourselves only; be American in thought and deed. Thus will you give immortality to that union which was the constant object of my terrestrial labors; thus will you preserve undisturbed to the latest posterity the felicity of a people to me most dear; and thus will you supply (if my happiness is now aught to you) the only vacancy in the round of pure bliss high Heaven bestows."—HENRY LEE.

THE BONNIE BLUE FLAG.

We are a band of brothers
  And native to the soil,
Fighting for the property
  We gained by honest toil;
And when our rights were threatened,
  The cry rose near and far—
"Hurrah for the Bonnie Blue Flag
  That bears the single star!"

CHORUS.

Hurrah, hurrah!
  For Southern rights hurrah!
Hurrah for the Bonnie Blue Flag
  That bears the single star.

First gallant South Carolina
  Nobly made the stand;
Then came Alabama,
  Who took her by the hand;
Next quickly Mississippi,
  Georgia and Florida
All raised on high the Bonnie Blue Flag
  That bears the single star.

CHORUS.

And here's to old Virginia—
The Old Dominion State—
With the young Confed'racy
At length has linked her fate,
Impelled by her example,
Now other states prepare
To hoist on high the Bonnie Blue Flag
That bears the single star.

CHORUS.

Then here's to our Confed'racy,
Strong are we and brave,
Like patriots of old we'll fight
Our heritage to save.
And rather than submit to shame,
To die we would prefer;
So cheer for the Bonnie Blue Flag
That bears the single star.

CHORUS.

Then cheer, boys, cheer;
Raise the joyous shout,
For Arkansas and North Carolina
Now have both gone out;
And let another rousing cheer
For Tennessee be given,
The single star of the Bonnie Blue Flag
Has grown to be eleven.

CHORUS.

SCHOOL LAW.

Two of the most important bills passed by the General Assembly of the state are those known as the 1911 Act Revising the School Laws (the White bill), and the McMichael bill, amended August 22, 1907. The text of these bills is therefore printed in full in order that the teachers may be familiar with this legislation and have some acquaintance with the main features of our school law.

1911 SCHOOL LEGISLATION.

AN ACT TO REVISE THE SCHOOL LAWS OF GEORGIA.

SECTION 1. Be it enacted by the General Assembly of the State of Georgia, and it is hereby enacted by the authority of the same, That there shall be a State Board of Education composed of six members, as follows: The Governor, the State Superintendent of Schools, and four other persons, who shall be appointed by the Governor of the State, two for two years and two for four years, their terms of office thereafter to be for four years each, or until their successors are appointed and qualified. At least three of said appointees shall be men of practical experience in teaching schools and of high standing in educational work, having at least three years' practical experience as a teacher in the schools of Georgia, and being thoroughly conversant with the operation of rural schools. Should a vacancy occur at any time in said Board it shall be filled by the Governor; *provided,* That the nomination of the Governor for membership on the State Board of Education shall be subject to confirmation by the Senate; and *provided further,* That an appointment made when the Senate is not in session shall be effective until the Legislature convenes and acts on the appointment. No person who is now or has been connected with or employed by a schoolbook publishing concern shall be eligible to membership on said State Board of Education, and if any person shall become so connected or employed after becoming a member of said Board his place on said Board shall become vacant.

SEC. 2. The said Board of Education shall take oaths of office and enter upon the discharge of their duties immediately after their appointment. They shall meet in the office of the State

Superintendent of Schools. The Governor shall preside over their body as Chairman of the Board when it is practicable for him to be present; but when he can not be present, they shall select their Chairman and proceed with their business whenever a majority of the Board is present. The Board shall meet at least quarterly in regular session and at any other time when an emergency arises, and they shall be called together by the Governor of the State or State School Superintendent. The four appointees shall receive as compensation for their services $250.00 per annum each, which shall be paid out of the State Treasury on the warrant of the Governor and be allowed their actual traveling expenses in going and returning to their homes, upon submitting a sworn itemized statement, accompanied by proper vouchers and not otherwise. The total expenses for the four appointees shall not exceed $100.

SEC. 3. The State Board of Education shall provide rules and regulations for the supervision of all schools in the State. They shall provide the course of study for all common and high schools of the State receiving State aid. They shall select and make out a list of text-books to be taught in said schools, which can be changed only every five years; unless the peculiar conditions of any county or community demand certain changes, in which case, the County Board, together with the County Superintendent, shall make application to the State Board suggesting such changes and give their reasons therefor, whereupon if the said Board sees proper, their request shall be granted. *Provided,* This clause shall in no way affect the present State adoption of books. This Board of Education shall be the final court of appeal to hear and decide all matters which have been appealed from the State Superintendent of Schools. They shall determine the necessary office force of the State Superintendent of Schools and shall fix the compensation of the same. Not, however, to exceed $1,800.00 per annum more than at present paid.

SEC. 4. Each county in the State shall constitute a school district and the public school funds shall be apportioned among the several districts by the State Board of Education as now provided by law. They shall also provide for normal instruction of teachers in each of the districts, either by institutes or otherwise. They shall have power to compel the attendance of teachers upon such normals and institutes, to provide penalties for non-attend-

ance, to provide for the examination of the teachers of said State, and to grant licenses to those that are qualified who desire a State or special license.

SEC. 5. Be it further enacted, That in the place of the State School Commissioner the office of State Superintendent of Schools is substituted; *provided,* That the person now holding the office of State School Commissioner shall serve as State Superintendent of Schools during the remainder of the term for which he was elected, and exercise all of the duties now exercised by such official, in addition to powers herein granted. The term of office shall be for two years and until his successor is elected and qualified. He shall be elected as the present State School Commissioner is elected and exercise the same powers, except as hereinafter may be changed or altered.

SEC. 6. Be it further enacted, That upon entering upon the discharge of his official duties, the State Superintendent of Schools shall give bond in the penal sum of Ten Thousand ($10,000) Dollars to the State of Georgia, with some approved surety company which shall be acceptable to the Secretary of State, conditioned that he will truly account for and apply all money or other property which may come into his hands in his official capacity for the use and benefit of the purpose for which it is intended, and that he will faithfully perform the duties enjoined upon him by law. He shall take and subscribe an oath to diligently and faithfully discharge the duties of his office. The bond with certified endorsement thereon, shall be filed with the Secretary of State, the premium charged for said bond shall be paid out of the Treasury of the State.

SEC. 7. In addition to the powers hereinbefore given, the said State Superintendent of Schools shall be the Secretary and Executive Agent of the State Board of Education, for which services he shall receive One Thousand ($1,000) Dollars.

SEC. 8. Be it further enacted, That to render a person eligible to hold the office of State Superintendent of Schools he shall be a man of good moral character, of high educational standing, have had at least three years' practical experience as a teacher, or in lieu thereof shall have a diploma from a reputable college or normal school, or shall have had five years' experience in the actual supervision of schools, and be at least thirty years of age.

SEC. 9. The State Superintendent of Schools shall carry out

and enforce all the rules and regulations of the State Board of Education and the laws governing the schools of the State receiving State aid; he shall from time to time make such recommendations to the State Board as may affect the welfare and efficiency of the public schools throughout the State; he shall have authority to suspend a County Superintendent of Schools for incompetency, willful neglect of duty, misconduct, immorality or the commission of crime involving moral turpitude; *providing, of course,* That all of his acts in this matter shall be subject to the approval of the State Board of Education, and the party so suspended may appeal his case to the State Board, whose decision shall be final. The State Superintendent of Schools shall have power, with the consent and approval of the State Board of Education, to appoint three State School Supervisors, whose professional qualifications shall be the same as State Superintendent's who shall act under the direction of the State Superintendent of Schools and fill the place of the experts provided for in the Acts of 1891, which were amended in 1892 and 1893. The salaries paid these Supervisors shall be fixed by the State Board of Education and shall not exceed Two Thousand Dollars each per annum, together with necessary traveling expenses; *provided,* The same shall not exceed $2,000 dollars. The Supervisors shall keep itemized statements of their expenses, which shall be sworn to monthly and approved by the State Superintendent of Schools and be paid out of the State Treasury. It shall be especially the duty of these Supervisors to act as instructors of institutes to give State normal instruction and training as the State Superintendent may direct in each county; to grade the papers of applicants for professional certificates or State licenses and to aid generally in supervising, systematizing and improving the schools of the State under the direction of the State Superintendent of Schools.

SEC. 10. The State Superintendent of Schools, with the advice and approval of the State Board of Education, shall appoint one person who shall be a competent and experienced bookkeeper and accountant at a salary of Two Thousand Dollars per annum, together with his actual traveling expenses, whose duty it shall be to thoroughly audit and check the books and accounts of County Superintendents and the Treasurers of local school systems, of municipal systems, of the State University and all its

branches, including the District Agricultural Schools, the State College of Agriculture, Technological Schools and all other schools receiving State aid and make regular annual reports to the State School Superintendent showing the amount received, for what purposes received and for what purposes expended. All such funds held by officials must be kept in banks separate from their individual bank accounts. He shall be allowed his traveling expenses from itemized statements sworn to, as the Supervisors are allowed theirs in the foregoing section, provided the total expenses shall not be more than $1,000 per annum.

SEC. 11. It shall be the duty of the State Superintendent of Schools, in addition to the powers already granted, that in the event of a misapplication of any of the funds apportioned to any of the institutions of learning or schools receiving State aid he shall at once proceed to recover the same by the institution of proper procedure in the courts of competent jurisdiction after demand is made upon the party misapplying the funds to settle same. Should it become necessary to procure additional legal services other than that of the Attorney-General, the Governor is authorized to procure special or local counsel and arrange to pay for the recovery of said funds, such fee out of the funds collected as is usual and customary in the locality where the suit is instituted.

SEC. 12. Be it further enacted, That the office of County Superintendent of Education shall be substituted for the office of County School Commissioner; *provided,* That the persons now holding the office of County School Commissioner shall continue to serve as County Superintendent of Schools during the remainder of the term for which they were elected respectively. In the regular election for Statehouse officers prior to the expiration of the present term of office of the County School Commissioner, there shall be elected by the qualified voters of each county in this State a County Superintendent of Schools, whose term of office shall be for four years; and every four years thereafter there shall be an election for the purpose of filling such office. The duties of the County Superintendent of Schools shall be the same as those of the County School Commissioner, except as hereinafter changed. It shall be his duty to enforce all regulations, rules, and instructions of the State Superintendent of Schools and of the County Board of Education according to

the laws of the State and the rules and regulations made by the said State Board of Education that are not in conflict with the State laws; and he shall, together with the State Supervisors herinbefore provided for, superintend the county normals and institutes for the teachers of his county, and shall visit every school, both white and colored, within his school district which receives State aid, at least once every sixty (60) days and familiarize himself with the studies taught in said schools, see what advancement is being made by the pupils, advise with the teachers and otherwise aid and assist in the advancement of education.

SEC. 13. He shall superintend examinations of all teachers of his county as provided by law. He shall hereafter suspend any teacher under his supervision for a non-performance of duty, incompetency, immorality or inefficiency, and for other good and sufficient cause, from which decision the teacher may appeal to the County Board of Education, and either being dissatisfied with their decision, they can appeal to the State Superintendent or from there to the State Board of Education, the decision of which shall be final.

SEC. 14. Before any person shall be qualified or eligible to the office of County Superintendent of Schools, he shall have had at least three years' practical experience in teaching, one year of which shall have been in the schools of Georgia, hold a first-grade license, or in lieu thereof shall have a diploma from a reputable college or normal school, or shall have had five years' experience in the actual supervision of schools, or stand an approved examination before the State Board as to his qualifications, and be a resident of the county in which he offers for election, be a person of good moral character, never convicted of any crime involving moral turpitude. The County Superintendent shall perform all the clerical duties which are now required of the County School Commissioner.

SEC. 15. Be it further enacted, That each County School Superintendent within the State of Georgia shall receive a minimum salary of $450.00 per annum, and an annual allowance of $150.00 for the purpose of defraying the expenses of visiting the schools within his county at least every sixty (60) days, or a total of $600.00, which salary shall be paid out of the school fund of Georgia monthly; and in addition thereto, the County Board of

Education shall allow such additional compensation for the services to be rendered as may be in their judgment proper and just.

SEC. 16. Be it further enacted, That the County Board of Education shall consist of five (5) members as now provided by law and selected by the grand jury as now provided by law, except that the grand jury in selecting such members shall not select one of their own number then in sesssion, nor shall they select any two of those selected from the same militia district or locality, nor shall they select any person who resides within the limits of a local school system operated independent of the County Board of Education, but shall apportion members of the Board as far as practicable over the county; they shall select men of good moral character, who shall have at least a fair knowledge of the elementary branches of an English education and be favorable to the common school system.

SEC. 17. Be it further enacted, That the County Board of Education shall have and exercise all the powers that are now exercised by the County Board of Education except as may be herein changed; *provided,* That the County Superintendent of Schools and County Board of Education shall make rules to govern the county schools of their respective counties; upon being called together by some one of their number after their selection, they shall organize by selecting a chairman. The County Superintendent shall act as Secretary of the Board, and keep the minutes of their meetings and make a permanent record of the same and do any other clerical work that they may direct him to do. Said Board may suspend the County Superintendent same as State Superintendent, and may suspend teachers same as County Superintendent. In each case there may be an appeal to State Board.

SEC. 18. Be it further enacted, That after the passage of this Act, the Board of Education of any county shall have the right if, in their opinion, the welfare of the schools of the county and the best interests of the pupils require, to consolidate two or more schools located in the same or different districts into one school, to be located by said Board at a place convenient to the pupils attending the same, said schoolhouse to be located as near the center of the district or districts involved as practicable. Whenever two or more schools are consolidated as hereinafter provided, the County Superintendent shall call an election of

trustees for said consolidated schools from the district or districts concerned; said election shall be held in accordance with the provisions of existing law, and the result determined and declared by the Board of Education. The County Board of Education shall have the further power, when the best interests of schools demand, to separate or divide any school district into two or more school districts and to provide for the election of a Board of Trustees for each of said districts, and to do all other things for the government and control of said districts as is herein provided for the organization and control of school districts. *Provided,* That such County Boards of Education shall have authority to establish two schools in any school district in this State if they deem it best to do so.

SEC. 19. Be it further enacted, That whenever in the opinion of the County Board of Education, the best interests of the schools demand, the Board of Education shall have the right to consolidate two or more districts or parts of districts or to add any part of one district to any other district or to change the line or lines of any district at any time, when, in their judgment, the best interests of the schools require such change, into one school district with the purpose of the election of the Board of Trustees and of the location of the school at some central place as hereinbefore provided; but should as many as ten of the patrons of the said school or schools object to the consolidation, it shall be the duty of the County Superintendent to call an election to be held in said district or districts affected, giving thirty (30) days notice of same by publishing the same once a week for four weeks in the paper in which county advertisements are published, and also by posting notice at three or more public places in the district or districts to be affected thereby, at which election should a majority of the qualified voters vote for consolidation, the schools shall be consolidated; otherwise, not. The result of such election shall be determined and declared by the Board of Education and the same shall be held as other elections are held.

SEC. 20. Be it further enacted, That whenever the County Board of Education deems it for the best interest of a school, it shall have the right to provide means for the transportation of the pupils to and from said school; *provided,* That no school is established in three miles of the pupils to be transported; *provided, further,* That this shall only apply to school or schools

where two or more districts have been combined or consolidated and such other schools that are now furnishing transportation. No school trustee, teacher, or superintendent of county schools shall be interested financially in the transportation of pupils.

SEC. 21. Be it further enacted, That it is not the intention of this Act to repeal or interfere with the laws which have been enacted establishing local tax district schools, municipal schools, or other schools already established by law, except that no person shall be allowed to teach in any school in the State of Georgia receiving State aid without first standing an examination and procuring a license as provided by the State Board of Education and State Superintendent; *provided,* They are hereby authorized and directed to prescribe and require a different examination of teachers who are engaged in teaching primary grades only, from that required of teachers of higher grades; *provided, nevertheless,* That the State Board of Education may, when the authorities in charge of any local municipal schools are maintaining a sufficiently high standard of examinations for its teachers, delegate to the authorities of these systems the right to license teachers to teach in their respective systems, upon examinations to be provided by such local authorities, reserving, however, to the State Board of Education the right to revoke this delegation of authority as to any local system whenever it appears that the authorities of that system have relaxed the standard or failed to give examination. Nothing herein contained shall be construed as affecting the right of the authorities of local municipal systems to prescribe the courses of study therein, or select text-books, in those schools where they are now allowed to do so by law.

SEC. 22. Be it further enacted, That none of the provisions of this bill shall apply to local county school systems which were in existence at the time of the adoption of the Constitution of 1877. Nor shall any of the provisions of this Act apply to the school system of any municipality having a population of one hundred thousand people or more.

SEC. 23. Be it further enacted, That no member of the State Board of Education or any appointees of said Board or any other person or persons that has the authority of selecting or in any way aiding in the selection of school books for the schools of Georgia shall not for themselves or any member of their respective families receive any gifts, compensation or remuneration

of any kind from any schoolbook publishing house, corporations, individuals, or the agents or representatives of either, nor shall any person, publishing house or corporation engaged in publishing or the sale of school books offer to any of said board or their families or appointees any gift, compensation or remuneration, directly or indirectly. Any person violating the provisions of this section shall be guilty and punishable for a misdemeanor. Should any of the aforementioned publishing houses, corporations or persons engaged in publishing or selling school books offer to any of the aforementioned officers, their families or appointees any such compensation, remuneration or reward of any kind, it shall be their duty to report the same to the grand juries of their respective counties, and on failure or refusal to do so, they or either of them so failing or refusing shall be guilty and punishable for a misdemeanor, and such officers on conviction thereof shall be removed from office.

SEC. 24. All laws and parts of laws in conflict with this Act be, and the same are, hereby repealed.

LOCAL TAX DISTRICT SCHOOLS AND LOCAL TAX BY COUNTIES.

(Amended August 22, 1907.)

COUNTY BOARDS TO LAY OFF SCHOOL DISTRICTS.

SECTION 1. Be it enacted by the General Assembly of Georgia, and it is hereby enacted by authority of the same, That within thirty days after the passage of this Act, or as soon thereafter as practicable, it shall be the duty of the County Board of Education of each county in Georgia to lay off the county into school districts, the lines of which shall be clearly and positively defined by boundaries such as creeks, public roads, land lots, district lines or county lines. The school district thus marked out shall contain an area of not less than sixteen square miles, and, when practicable, shall be so shaped as to have the school building as near the center as possible, and no territory shall be included whose occupants reside further than three miles from the school house without written petition of two-thirds of the qualified voters therein; *provided,* That the Board of Education may

have the right to establish districts with areas less than sixteen square miles where there are natural causes or local conditions that make it necessary to do so. The natural causes which will permit the creation of smaller districts are mountains, streams over which there are no bridges, and dangerous roads. Local conditions which will permit the creation of small districts must be determined by the Board of Education.

In counties having incorporated towns, now levying a local tax for educational purposes, and operating a public school system under their own charter or special Act of the Legislature, the County Board of Education, with the consent of the municipal authorities, may create a school district larger than the incorporated limits of the town by adding adjacent territory not already included in the incorporated limits, and the district thus marked out shall become a school district upon the vote of the people as hereinafter provided, but such school district, including incorporated towns having a population of four thousand or more, shall be and remain under the exclusive supervision and direction of the school boards of the previously chartered schools in said class of incorporated towns and not under supervision of the County Board of Educations; and the school boards of such chartered schools in incorporated towns shall be trustees of said school district under this Act; *provided further,* That if there be located in such district a chartered school controlled by a board of stockholders or by board of directors elected by them, the management and control of said chartered school shall remain in them, and they shall have all the rights and privileges of this Act to collect local taxes as herinafter provided in this Act, and to receive the share of the State public school fund. A map of the county thus laid off, plainly outlining the boundaries of the school district with full description thereof, shall be filed with the Ordinary within forty days after the passage of this Act, or as soon thereafter as practicable, and the boundaries of said school districts shall not be altered any oftener than once a year. The County Board of Education in laying off the county shall disregard any school districts embracing territory not included in incorporated towns heretofore created by special Act of the Legislature. The failure on the part of any Board of Education to perform the duties required by this Act, shall be immediately inquired into by the first grand jury sitting after such neglect of

duty, and if said grand jury shall find that any member or members of said board have failed to perform their duty it shall report the same to the judge of the superior court, who shall cause a rule *nisi* to issue against such member or members, and they shall be heard by the judge in their own behalf; if the said member or members can not give a good and sufficient reason why they have not performed their duties as required by this Act, they shall be discharged, and the said judge shall fill the vacancies until the next grand jury shall meet.

ELECTION OF TRUSTEES.

SEC. 2. Be it further enacted, That within ninety days after the Board of Education has laid off the county as required in Section 1, the said Board of Education shall order the citizens of the several school districts to hold an election for the purpose of electing three trustees for each district in the county. Said election shall be held at a time and place, and in a manner prescribed by the County Board of Education. The said trustees shall be intelligent citizens of good moral character who are known to be earnest supporters of public education, and they shall serve one for three years, one for two years, and one for one year, as the County Board of Education may determine. In districts containing incorporated towns there may be five trustees, one of whom shall be elected for one year, two for two years, and two for three years. The notice of their election shall be filed by the election managers with the County School Commissioner, who shall submit the same to the County Board of Education for their approval. After the said local board of trustees have been approved and properly commissioned by the County Board of Education, it shall meet immediately and organize by electing one of its members president, and one secretary and treasurer. If the County Board of Education should consider any member or members unqualified for the work, they shall refuse to confirm the election of such member or members and require the citizens of a district at a time and place, and in a manner prescribed by the County Board of Education, to elect others. At the expiration of the term of office of the members thus elected the citizens of a district shall meet at a time and place, and in a manner prescribed by the County Board of Education, and elect their successors, who must be approved by the County Board

of Education as hereinbefore provided, and the election shall be for a term of three years. If any member should refuse to act, or should be guilty of any conduct unbecoming the dignity of a school trustee, the County Board of Education shall have the right, upon a written complaint of a majority of the voters of the district, to remove said member and have his successor elected as hereinbefore provided. But no trustee shall be removed from office without sufficient proof, and he shall be served with a copy of such complaint at least ten days prior to the day set for the hearing, when such trustee shall be afforded an opportunity to be heard in his defense.

COUNTY ELECTION; HOW ORDERED—WHO SHALL VOTE—LIMIT TO RATE OF TAXATION.

SEC. 3. Be it further enacted, That whenever the citizens of any county wish to supplement the public school fund received from the State by levying a tax upon the property of the county, it shall be the duty of the Ordinary to order an election, not earlier than twenty days, nor later than sixty days, after receiving a petition of one-fourth of the qualified voters of the county; and notice of the same shall be published in at least three weekly issues of the county newspaper in which legal advertisements of the county are published. Said elections shall be held as ordinary county elections are held. Those favoring the levying of the local tax shall vote for "Local tax for public schools;" those opposed shall vote "Against local tax for public schools." The returns of said election shall be made to the Ordinary of the county, who shall declare the results, and two-thirds of those voting shall be necessary to carry said election for local taxation for public schools. An election for the same purpose shall not be held oftener than every twelve months. No person shall be allowed to vote in said election except those regularly qualified to vote in State and county elections. If the election is carried for local taxation, the Ordinary or Board of County Commissioners, whichever levies the county tax, shall levy a local tax as recommended by the County Board of Education upon all the property of the county, not to exceed one-half of one per cent, and the same shall be collected by the County Tax Collector and paid by him to the County Board of Education. The County Tax

Collector shall keep the funds thus collected separate and distinct from all county and State funds, and he shall receive a commission of two and one-half per cent for collecting the same. *Provided,* That if there be an incorporated town in a county holding an election as provided in this section now operating a public school system, it shall not be included in the election without consent of the municipal authorities, but if the municipal authorities should so wish, they may abolish their system by a special Act of the Legislature and avail themselves of the provisions of this bill.

(See amendments to this section approved August 14, 1909, Page 78.)

SEC. 4. Be it further enacted, That whenever the citizens of any school district wish to supplement the funds received from the State public school fund by levying a tax for educational purposes, they shall present a petition from one-fourth of the qualified voters of the district to the Ordinary, who shall order the election not earlier than twenty days, nor later than sixty days, after the petition is received; *provided,* That notice of same shall be posted in at least three conspicuous places in the district ten days prior to the election. The election shall be held at a time and place prescribed by the proper authorities, and under rules governing ordinary elections. Those favoring local taxation for public schools shall vote "For local taxation for public schools;" those opposed shall vote "Against local taxation for public schools." The returns of said election shall be made to the Ordinary of the county, who shall declare the results, and two-thirds of those voting shall be necessary to carry the election for local taxation for public schools. No person shall vote in said election except the regularly qualified voters residing in the district six months prior to the election. An election for the same purpose shall not be held oftener than every twelve months.

SEC. 5. Be it further enacted, That in those districts which levy a local tax for educational purposes, the Board of Trustees shall make all rules and regulations to govern the schools of the districts, and build and equip schoolhouses under the approval of the County Board of Education. They shall have the right to fix the rate of tuition for non-resident pupils, and to fix the salaries of the teachers. They shall receive from the County

Board of Education the share of public school funds apportioned to the district by the County Board of Education. They shall determine the amount necessary to be raised by local tax on all the property of the district. The Secretary of the Board of Trustees of said district, with the aid of the County School Commissioner of said county, shall ascertain from the tax returns made to the tax receiver and from the returns made to the Comptroller-General, the total value of all of the property in said district subject to taxation for county purposes, and a regular digest of all such property in said school district, shall be made by said Secretary in a book furnished by the Board of Trustees and kept for that purpose. At or before the time of fixing the rate of taxation for said county, the Secretary of each local Board of Trustees, with the aid of the County School Commissioner, shall levy such rate on the property thus found as will raise the total amount to be collected; *provided,* That such rate shall not exceed one-half of one per cent. The County School Commissioner of each county, at or before the time for fixing the rate of said county by the Ordinary thereof, or the County Board of Commissioners, as the case may be, shall certify to the said Ordinary, or said Board of Commissioners, as the case may be, and to the Comptroller-General of the State, the rate of taxation fixed for each school district in the county, and said taxing authority of said county shall levy such special tax at the same time and in the same manner as is now prescribed for levying taxes for county purposes.

A copy of the special tax digest of said local tax district shall be furnished by the Secretary of the Local Board of Trustees to the Tax Collector of the county, and it shall be his duty to compute and collect said taxes, keeping the same separate by school districts from the county and State funds, and turn same over to the Secretary of such local school districts, as well as tax received for said district from railroads and other corporations that make their returns to the Comptroller-General, taking the receipt for the same upon order from the County School Commissioner; and said Tax Collector shall receive as compensation therefor two and one-half per cent of the amount collected.

In any case in which it is impossible to determine from tax returns made to the Tax Receiver of the county the value of the property of any citizen situated in any school district and

subject to taxation in said district, the Secretary of the Board of Trustees shall issue a summons to said taxpayer requiring him to make returns within five days to said Secretary of his property situated in said district and subject to taxation for school purposes. Should said return be unsatisfactory to said Secretary, he shall reject the same and submit said returns to arbitration as is now provided by law for such cases when returns are rejected by tax receivers.

All property, both real and personal, including franchises belonging to railroads, telegraph and telephone companies, and to all other corporations which are now required to make their returns to the Comptroller-General of this State, which is in the taxable limit of any school district shall be, and the same is, hereby made subject to taxation by said school districts as fully and completely as is the property of other corporations within such taxable limits.

It is hereby made the duty of every such corporation in this State, in addition to the facts now required to be shown in their returns to the Comptroller-General to also show in said returns the value of such corporation's property in each of said school districts through which it runs. And for the purpose of enabling such corporation to show in said returns the value of its property in such school districts, it is hereby made the duty of the County Superintendent of Schools of each county to furnish on or before January 1, 1907, to each such corporation, information as to the boundaries of each school district in which such corporation may have property, such as will enable such corporation to determine the amount of its property in such district, and he shall also furnish similar information whenever the boundaries of any school district may be changed.

The rolling stock, franchises and other personal property of said corporations shall be distributed to said school districts on the same basis that rolling stock, franchises and other personal property are distributed to counties and municipalities under the law; that is, as the value of the property located in the particular district is to the whole located property, real and personal of said corporation, such shall be the amount of rolling stock, franchises, and other personal property to be distributed for taxing purposes to each school district.

All of the other provisions of the Act of October 16, 1889,

entitled "An Act to provide a system of taxation of railroad property in each of the counties of the State through which said railroad runs, and to provide a mode of assessing and collecting the same, and for other purposes," in so far as they can be applied are hereby made applicable to the assessment and collection of taxes of all such companies and corporations which are now required by law to make their returns to the Comptroller-General, by and for school districts in this State upon the property and franchises of such companies located in such school districts and upon the rolling stock, franchises and other personal property distributed under the provisions of this Act.

SEC. 6. Be it further enacted, That the Board of Trustees may have the right to pay the Secretary and Treasurer a commission on the amount of local tax collected not to exceed two and one-half per cent, but there shall be no commission allowed on the amount received from the State. They shall furnish quarterly to the County Board of Education a statement showing all receipts, disbursements, and cash on hand. They shall also furnish statement showing school population, enrollment, average attendance, course of study and other data the County Board of Education may require whenever called upon to do so.

SEC. 7. Be it further enacted, That while it is the purpose and spirit of this Act to encourage individual action and local self-help upon the part of the school districts, it is expressly understood that the general school laws of this State as administered by the County Board of Education shall be observed.

SEC. 8. Be it further enacted, That all elections held under the provisions of this Act shall be governed as to registration and qualification of voters as the general law governing special elections provides.

SEC. 9. Be it further enacted, That all laws and parts of laws in conflict with this Act be, and the same are, hereby repealed.

Approved August 21, 1906.

Amendments approved August 22, 1907.

BOOKS FOR SCHOOL LIBRARIES.

The Georgia Educational Association, at its meeting in Macon, April 27-29, 1911, appointed the undersigned as members of a committee to name books suitable for school libraries. In accordance with this direction the following list is recommended. Arrangements have been made with the Pool & Isely Company, 82 N. Pryor Street, Atlanta, Ga., for supplying the books. The regular retail price and the reduced price offered by the firm is put opposite each book. They agree further to repay freight charges to nearest freight depot on all orders for $15.00 or over. A $10 library case furnished by this company is economical and convenient. Pool & Isely will deliver promptly the state list of books at the prices named. Cash must accompany every order.

(Signed) J. S. Stewart,
L. P. Smith,
J. M. Pound,
N. E. Ware,
M. M. Parks,
W. P. Thomas,
M. L. Brittain.

THE SCHOOL LIBRARY.

No school can be said to be equipped for work that is not provided with a well selected library adapted to the advancement of the pupils. Of course, the trustees and patrons will see to the physical comfort of the pupils. Of course, the parents will provide wholesome food for their children. It is not equally true in Georgia that parents and trustees will provide good books in every school for these same children. Next to a good teacher a good library is of most importance in educating children. The library is not a luxury but a necessity, and it is therefore almost as much the duty of the school authorities to expend money for books as it is to purchase desks, blackboards and charts. The library is an essential part of the equipment and not a side issue. Rightly used, it may become the heart of the school.

Some of the purposes of the school library are:

1. Its effect upon
   (a) The regular studies
   (b) The interest in school work
   (c) The character of the pupil
   (d) The home
   (e) The community.
2. To cultivate a taste for good reading and to create the reading habit.
3. To bring children into contact with the beauty and truth as found in the best books, and to hold communion with the choicest minds of all ages.
4. To counteract the vicious influences of trashy literature by the positive influence of living with real heroes of the race, thus creating higher ideals of life.
5. To awaken an interest in good reading in the home, thereby extending the influence of the school to those out of school.
6. To broaden the knowledge of the teacher, so that she may supplement the textbook work.
7. To enable the teacher to refer the pupils to the proper books in order to
   (a) Increase the pupils' knowledge and interest in the subject.
   (b) Give the pupil added practice in reading.
   (c) Create a thirst for added information. Notice the results of the habit of reading upon the moral life, upon the tastes, upon the social life of a people. To teach a child to read and not to cultivate a taste for good literature is dangerous.

HOW TO CREATE AN INTEREST IN THE LIBRARY.

1. Among teachers:
   (a) By showing the importance and value of the work.
   (b) By discussion in the institutes.
   (c) By Superintendent's requiring familiarity with the books on the part of the teacher.
   (d) By Superintendent's creating rivalry among teachers in establishing libraries.

2. Among pupils:
   (a) By putting the proper books within their reach.
   (b) By reading or telling part of the story, thus inducing the child to take the book from the library.
   (c) By using the book in connection with school work, to throw added beauty and life into it.
   (d) By a study of the tastes of the pupils and helping to select books to read.
   (e) By encouraging pupils to read during vacant period of school hours.
   (f) By having the library open during school hours and referring constantly to books to supplement the text.
   (g) By having informal talks in class about books pertaining to the subject or about books which they have read or like best.
   (h) By assigning parallel reading.
   (i) By enlisting the enthusiasm of the home.
3. Among parents:
   (a) By interesting the children.
   (b) By having the books in the home.
   (c) By sending lists of the books home and inviting parents and others to visit the library.
   (d) By providing reference books and government publications of local interest to the industries of the community.

How to Secure the Books.

1. By encouraging individual pupils to purchase or to contribute books.
2. By securing subscriptions from enterprising citizens.
3. By giving entertainments.
4. By securing the help of the women's club.
5. By donations from the teacher and others.

What Books Should be Bought.

1. It is a safe plan to choose from the state list.
2. Choose the books that will interest the children of your grades.

3. Choose some books that will be useful as supplementary reading in the different subjects taught and some that will be of aid to the teacher.
4. Refuse contributions of trashy or cheap books. Scrutinize donations of books. They are frequently worse than worthless.

The books on the state list have been selected with great care as representative of the best of those treating the subjects mentioned and for the grades indicated. The school subjects have been kept steadily in mind so that the library list would supplement and enrich the texts.

Care of Books.

1. Let your hands be clean.
2. Do not turn down corners of leaves nor fold back the covers.
3. Keep the books in the bookcase when not in use.
4. Do not mark or otherwise mutilate the books.

Graded School Library

Sometimes teachers wish suggestions for a small library. If so, the following list of fifty books may be helpful:

FIRST YEAR.

	List Price.	Ga. Price.
Mother Goose Nursery Rhymes	$ .30	$ .25
Art Literature Primer	.30	.27
Wiltse—Folk Lore Stories	.30	.25
Fairy Reader	.40	.33
Hiawatha Primer	.40	.35
Glimpses of Nature for Little Folks	.30	.25

SECOND YEAR.

Child's Garden of Verse	.40	.3[illegible]
Cowles—Robinson Crusoe Reader	.30	.25
Little Nature Studies from John Burroughs	.30	.25
Art Literature, Book I	.30	.27
Little Folks of Many Lands	.45	.38
Stories from Animal Land	.75	.60

THIRD YEAR.

Art Literature, Book II	.40	.37
Anderson's Fairy Tales	.40	.35
Our Feathered Friends	.35	.29
Old Greek Stories	.40	.35
Stickney—Aesop's Fables	.40	.33
Scudder—Book of Legends	.35	.29

FOURTH YEAR.

Hale—Arabian Nights	.60	.48
Robinson Crusoe	.40	.33
Alice in Wonderland	.50	.40
Little Lame Prince	.25	.20
Bird World	.60	.49
Memory Gems for Schools	.30	.25

FIFTH YEAR.

Adventures of Ulysses	.40	.33
Swiss Family Robinson	.50	.40
Famous Men of Greece	.50	.41
Famous Men of Rome	.50	.41
Famous Men of the Middle Ages	.50	.41
Tanglewood Tales	.40	.32

SIXTH YEAR.

Geographical Reader (Europe)	.70	.57
Little Men	1.50	1.00
Little Women	1.50	1.00
Knights of the Round Table	2.00	1.35
Story of the Iliad	1.25	.89
Good Health	.60	.48

SEVENTH YEAR.

Days of Wood Folk	.50	.41
Norse Stories	.40	.35
Tales from Shakespeare	.25	.20
Child's History of England	.75	.24
Birds and Bees	.40	.35
Tom Brown's School Days	.75	.24

EIGHTH YEAR AND ABOVE.

Bible	.75	.61
Franklin's Autobiography	.25	.20
Sketch Book	.25	.20
Ivanhoe	.50	.40
David Copperfield	.75	.24
Tennyson's Poems	1.00	.80

Reading Course for Teachers.

FIRST YEAR.

History of Education	1.25	1.00
Hodge's Nature Study and Life	1.50	1.21
The Manual for Georgia Teachers		Free

Form for Book Mark.

SCHOOL LIBRARY.

.....County.

No. of this book on State List.	Price paid.	Date of Purchase.	Suitable for School Grades.	Library Number.

Purchase made by.....

Suggested Rules.

1. One book may be taken at a time by a pupil and kept two weeks and may be once renewed for one week. No book can be taken from library room without being charged.
2. Four weeks is the limit of time that a book can be retained in any one household.
3. A book cannot be transferred from one account to another unless it is brought to the library.
4. A fine at the rate of a cent a day is assessed on each book retained over time, payable on its return.
5. Any person who shall willfully cut, write upon, injure or destroy any book or other property of the library shall be liable to a fine proportionate to the damage, not to exceed the cost of the article.
6. Teachers, and for good cause others, can take out more than one book other than fiction at a time for such a term as may be agreed upon before book leaves the library.

7. Any person who refuses to pay the fines mentioned above forfeits thereby all right to the use of the library.

8. The library will be open daily for the use of the school during school hours and at a given hour on certain days for the use of the patrons and members.

9. Any citizen of the school community in addition to pupils may borrow books from the library upon the payment of an annual fee of 50 cents and on signing an agreement to comply with the regulations of the library.

Good library records, for books purchased as well as those loaned, may be secured from Pool & Isely. Price 75 cents each.

There has been one change in the list of professional books which the teachers are to use in renewing first-grade Primary and General Elementary licenses this year. In place of Seeley's History of Education the State Board has substituted Colgrove's "The Teacher and the School." The Reading Course for 1913 is, therefore, as follows:

	Address.	Price.
Manual for Georgia Teachers	County Superintendents	Free
Hodge's Nature Study and Life	Ginn & Company, Commerce Hall, Atlanta, Georgia. Postpaid	$1.00
Colgrove's The Teacher and the School	Charles Scribners Sons, Temple Court Bldg., Atlanta, Georgia. Postpaid	1.00

GEORGIA LIBRARY LIST, 1912.

Books suitable for grades I to XII inclusive, selected with special reference to their adaptability for use in the school library.

BOOKS FOR PRIMARY GRADES (I, II, III, IV).

(The figures to the right of the title indicate the grade for which the book is adapted.)

	Pub. Price.	Ga. Price.
1. Alexander & Blake, Graded Poetry, 1....Merrill	$0.20	$0.18
2. Cox, Brownie Primer, 1.....Century	.40	.33
3. Davis, Nature Stories for youngest Readers, 1, 2..	.40	.32
4. Holbrook, Hiawatha Primer, 1.....H. M. C.	.50	.41
5. Howard, Banbury Cross Stories, 1, 2....Merrill	.25	.23
6. Lane, Stories for Children, 1.....A. B. C.	.25	.21
7. Lang, Nursery Rhymes & Stories, 1, 2....Warner	2.00	1.35
8. McCullough, Little Stories for Little People, 1, 2, A. B. C.	.25	.21
9. Pratt, Aesop's Fables Simplified, 1,.... E. P. C.	.40	.32
10. Turpin, Anderson's Fairy Tales, 1, 2.....Merrill	.40	.36
11. Welsh, Book of Rhyme & Verse, 1, 2.....Heath	.30	.25
12. Wiltse, Grimm's Fairy Tales, 1. 2.....Ginn	.40	.33
13. Art Literature Primer, 1.....A. M. G.	.20	.18
14. Cinderella & Red Riding Hood, 1.....Dutton	.25	.23
15. Folk Lore Stories, 1.....McM.	.30	.25
16. Fairy Reader, 1.....A. B. C.	.35	.29
17. Glimpses of Nature for Little Folks, 1....Heath	.30	.25
18. Alexander & Blake, Graded Poetry, 2....Merrill	.20	.18
19. Baldwin, Fifty Famous Stories Retold, 2, 3, A. B. C.	.35	.29
20. Baldwin, Fairy Stories & Fables, 2, 3....A. B. C.	.35	.29
21. Bigham, Stories from Mother Goose Village, Rand	.60	.49
22. Brooks, Stories of the Red Children, 2....E. F. C.	.40	.32
23. Cook, Nature Myths & Stories, 2.....A. F. C.	.35	.29
24. Cowles, Robinson Crusœ Reader, 2.....Rand	.30	.25
25. Dutton, In Field & Pasture, 2, 3.....A. B. C.	.35	.29
26. Dunton, The World and its People, 2, 3....Silver	.50	.43
27. Eggleston, Stories of Great Americans, for little Americans, 2, 3.....A. B. C.	.40	.33
28. Fox, Indian Primer, 2.....A. B. C.	.25	.21
29. Hix, Selections for Reading & Mem. Bk., 2, 2, H. N. E.	.25	.21
30. Johonnot, Friends in Feathers & Furs, 2..A. B. C.	.30	.25
31. McMurray, Classic Stories for little Ones, 2. 3, Pub. Sp.	.35	.29
32. Pratt, Little Flower Folks, 2, 3.....E. P. C.	.40	.32

33.	Scudder, Book of Fables, 2, 3.....H. M. C.	.50	.41
34.	Scudder, Fable & Folk Stories, 2.....H. M. C.	.40	.33
35.	Smith, Eskimo Stories, 2.....Rand	.40	.33
36.	Stevenson, Child's Garden of Verse, 2.....Rand	.50	.41
37.	Strong, All the year round Series, 2, 3, Part 1, Autumn.....Ginn		
38.	Part 2, Winter.....Ginn		
39.	Part 3, Spring.....Ginn		
40.	Part 4, Summer.....each	.30	.25
41.	Little Nature Studies from John Burroughs, 2...	.35	.29
42.	Art Literature, Book 1, 2.....A. M. G.	.30	.25
43.	Little Folks of many Lands, 2.....Ginn	.45	.38
44.	Stories from Animal Land, 2.....E. P. C.	.75	.60
45.	Bigham, Merry Animal Tales.....L. B. & Co.	.60	.49
46.	Burt, Poems every Child should know, 3, 4, D. P. C.	.90	.76
47.	Burt, Prose every Child should know, 3, 4, D. P. C.	.90	.76
48.	Baldwin, Another Fairy Book, 3.....A. B. C.	.35	.29
49.	Baldwin, Old Stories of the East, 3, 4, A. B. C.	.45	.37
50.	Campbell, Story of Little Jan, the Dutch Boy, 3, 4, E. P. C.	.25	.20
51.	Campbell, story of little Conrad, the Swiss Boy, 3, 4 .....E. P. C.	.25	.20
52.	Campbell, Story of Little Mitzu, the Japanese Boy, 3, 4.....E. P. C.	.25	.20
53.	Carroll, Alice's Adventures in Wonderland, 3, 4 E. P. C.	.40	.32
54.	Chance, Little Folks of Many Lands, 3, 4..Ginn	.45	.39
55.	Chase, Stories of Industries, 3, 4, Vol. 1, E. P. C.	.60	.48
56.	Vol. 2	.60	.48
57.	Dewey, Lessons on Morals, 3, 4.....Hinds	.75	.61
58.	Eggleston, Great Americans for Little Americans, 3 .....A. B. C.	.40	.33
59.	Eggleston, Stories American Life and Adventure, 3, 4.....A. B. C.	.60	.49
60.	Godolphin, Swiss Family Robinson, 3, 4, E. P. C.	.40	.32
61.	Goldsmith, History of Little Goody Two Shoes, 3, Heath	.20	.18
62.	Hubst, Tales and Customs of Ancient Hebrews, 3, 4.....A. F. C.	.40	.33
63.	Hemer, Little Folks of Other Lands, 3, 4, Cassell	1.25	.89
64.	Holbrooks, Round the Year in Myth and Song, 3, 4 .....A. B. C.	.60	.49
65.	Johonnot, Book of Cats and Dogs, 3....A. B. C.	.20	.18
66.	Johonnot, Grandfather Stories, 3.....A. B. C.	.30	.25

67.	Johonnot, Stories of Heroic Deeds, 3...A. B. C.	.30	.25
68.	Krout, Alice's Visit to Hawaiian Island, 3, A. B. C.	.45	.39
69.	Klingensmith, Stories of Norse Gods and Heroes, 3, 4 .....Fl.	.35	.29
70.	Livingston, Glimpses of Pioneer Life, 3, 4....Fl.	.40	.33
71.	Lane, Industries of To-day, 3, 4.....Ginn	.25	.21
72.	Miller, Little People of Asia, 3, 4.....Dutton	2.50	1.67
73.	Morris, Home Life in all Lands, Vol. 1, 3, 4 Lippincott	.60	.52
74.	Mullock, Adventures of a Brownie, 3....Harper	.40	.32
75.	Muller, Little People of the Snow, 3...Flanagan	.35	.29
76.	Neidlengies, Earth, Sky and Air in Song, 3, 4, A. B. C.	.70	.57
77.	Payne, Geographical Nature Studies, 3..A. B. C.	.25	.21
78.	Pratt, Great West, 3, 4.....E. P. C.	.50	.40
79.	Peary, Snow Land Folks, 3, 4.....Stokes	1.20	1.12
80.	Road Knight, Old Fashioned Rhymes, 3, 4..L. G.	.50	.43
81.	River, King of the Golden River, 3.....Heath	.25	.20
82.	Schwartz, Five Little Strangers, and How They Came to Live in America, 3, 4.....A. B. C.	.40	.33
83.	Scudder, Book of Folk Stories, 3, 4....H. M. C.	.60	.49
84.	Shows, Big People and Little People of Other Lands, 3, 4 .....A. B. C.	.30	.25
85.	Stickney, Aesop's Fables, 3, 4.....Ginn	.40	.32
86.	Scudder, Book of Legends, 3.....H. M. C.	.35	.30
87.	Wiggins & Smith, Story Hour, 2, 3, 4....H. M. C.	1.00	.81
88.	Winslow, Geography Reader, 3.....Heath	.50	.41
	Book 1, Earth and Its People.		
89.	Art Literature, Book II.....M. G.	.40	.35
90.	Anderson's Fairy Tales .....Merrill	.40	.37
91.	Our Feathered Friends .....Heath	.35	.29
92.	Diman, Stories from Greek History.....Merrill	.40	.35
93.	Aryton, Child Life in Japan, 4.....Heath	.25	.21
94.	Baldwin, Thirty More Famous Stories, 4..A. B. C.	.50	.43
95.	Bayless, Lalomi, Little Cliff Dweller, 4..Pub. Sp.	.50	.43
96.	Brown, Lonesome Doll, 4.....H. M. C.	.85	.69
97.	Browne, Granny's Wonderful Chair, 4....McCl.	1.50	1.00
98.	Bull, Friday of Manser, 4.....Heath	.30	.25
99.	Burnette, Little Lord Fauntleroy, 4.....Scribner	1.50	1.00
100.	Carrol, Through the Looking Glass, 4.....McM	.75	.60
101.	Carter, Stories of Brave Dogs, 4.....Century	.55	.45
102.	Chase, Stories of Animal Land, 4, 5.....E. P. C.	.75	.60
103.	Dewey, Lessons on Manners, 4, 5.....H. N. & E.	.75	.61
104.	Greenleaf, Stories and Tales from Animal World, 4, 5 .....E. P. C.	.50	.40
105.	Goulding, Young Marooners, 4.....U. P. C.	.30	.27
106.	Goulding, Marooner's Island, 4.....D. M. C.	1.50	1.00
107.	Grimm's Fairy Tales, condensed, 1.....		

108.	Grimm's Household Tales, 4.....McM.	.25	.21
109.	Hale, Arabian Nights, 4.....Ginn	.50	.40
110.	Harris, Little Mr. Thimblefinger, 4.....H. M. C.	2.00	1.37
111.	Harris & Gilbert, Poems by grades, Vol. 1, 4 Scribner	.60	.52
112.	Judd, Wigwam Stories, 4.....Ginn	.75	.61
113.	Kingsley, Water Babies, 4.....McM	.75	.61
114.	Kipling, Just So Stories, 4.....D. P. C.	1.20	1.12
115.	Lang, True Blue Fairy Book, 4.....L. G.	.50	.41
116.	Long, Secrets of the Woods, 4.....Ginn	.50	.41
117.	Miller, Second Book of Birds, 4.....H. M. C.	1.00	.81
118.	Macomber, Stories of our Authors, 4.....E. P. C.	.40	.32
119.	Pratt, Story Land of the Stars, 4.....E. P. C.	.50	.40
120.	Pyrnell, Diddy, Dumps & Tot, 4.....Harper	.60	.49
121.	Parker, Our Friends the Birds, 4.....A. F. C.	.50	.41
122.	Starr, American Indian, 4.....Heath	.45	.39
123.	Taylor, Boys of Other Countries, 4.....Putnam	1.25	.89
124.	Little Lame Prince, 4.....E. P. C.	.25	.20
125.	Bird World, 4 .....Ginn	.60	.49
126.	Memory Gems for School, 4.....E. P. C.	.30	.25

BOOKS FOR UPPER GRAMMAR GRADES.

Literature.

(Poetry, Story, Novel.)

127.	Alexander & Blake, Graded Poetry.....Merrill Vol. IV, 5		
128.	Vol. V, 6		
129.	Vol. VI, 7		
130.	Vol. VII, 8.....each	.20	.18
131.	Art Literature, Book IV, 5.....A. M. G.	.50	.43
132.	Alcott, Little Women, 6.....Little	1.50	1.00
133.	Alcott, Little Men, 6.....Little	1.50	1.00
134.	Baldwin, Hero Tales Told in School, 5..Scribner	.50	.45
135.	Baldwin, Discovery of Old Northwest, 5..A. B. C.	.60	.49
136.	Baldwin, American Book of Golden Deeds, 7 A. B. C.	.50	.41
137.	Burt Eugene Field Book, 5, 6.....Scribner	.50	.41
138.	Cooper, The Spy, 7, 8.....H. M. C.	1.00	.69
139.	Cooper, The Deerslayer, 7, 8.....Neal	.30	.25
140.	De La Rame, Nurnburg Stove, 5, 6.....E. P. C.	.25	.20
141.	Dickens, Christmas Stories, 6, 7.....A. B. C.	.50	.41
142.	Dickens, Little Nell, 6, 7.....A. B. C.	.50	.41
143.	De Foe, Robinson Crusoe, 5.....A. B. C.	.50	.43
144.	Dodge, Hans Brinker, 5, 6.....G. & D.	.50	.45
145.	Doubleday, Stories of Invention, 7, 8..Doubleday	1.25	.89
146.	Doyle, Micah Clarke, 7, 8.....L. G.	.50	.41

147.	Eggleston, Hoosier School Boy, 5, 6.....Scribner	.50	.43
148.	Eggleston, English History Stories, 5, 6..Merrill	.50	.43
149.	Foote. Explorers and Founders of America, 5, 6 A. B. C.	.60	.49
150.	Golding, Story of Stanley, 5, 6.....Dutton	.50	.41
151.	Harris, Gabriel Tolliver, a Story of Reconstruction, 7, 8.....McCl.	1.50	1.00
152.	Harris, Uncle Remus, 7, 8.....H. M. C.	1.50	1.00
153.	Harris, Nights with Uncle Remus, 5, 6..H. M. C.	1.50	1.00
154.	Haaran & Poland, Famous Men of Greece, 5, 6, A. B. C.	.50	.41
155.	Haaran & Poland, Famous Men of Rome, 5, 6, A. B. C.	.50	.41
156.	Haaran & Poland, Famous Men of Middle Ages, 5, 6 .....A. B. C.	.50	.41
157.	Hawthorne, Tanglewood Tales, 5.....H. M. C.	.75	.61
158.	Harris & Gilbert, Poems by Grades, Vol. II, 5, 7 .....Scribner	.60	.52
159.	Horne, Stories of the Great Artists, 5, 6, 7, A. B. C.	.50	.41
160.	Harris, Stories of Georgia, 5, 6.....A. B. C.	.60	.49
161.	Henty, Bonnie Prince Charlie, 6, 7.....Burt	.50	.22
162.	Henty, Boy Knight, 6, 7.....Burt	.50	.22
163.	Henty, By Right of Conquest, 6, 7.....Burt	.50	.22
164.	Henty, With Lee in Virginia, 6, 7.....Burt	.50	.22
165.	Henty, By England's Aid, 6, 7.....Burt	.50	.22
166.	Henty, Under Drake's Flag, 6, 7.....Burt	.50	.22
167.	Henty, With Wolfe in Canada, 6, 7.....Burt	.50	.22
168.	Henty, The Dragon and the Raven, 6, 7....Burt	.50	.22
169.	Henty, In the Reign of Terror, 6, 7.....Burt	.50	.22
170.	Henty, The Young Carthaginian, 6, 7.....Burt	.50	.22
171.	Hawthorne, Grandfather's Chair, 7, 8....H. M. C.	.75	.61
172.	Hughes, Tom Brown's School Days, 6, 7..MacM.	1.00	.69
173.	Kennedy, Horseshoe Robinson, 5.....Neale	.30	.27
174.	Kipling, Jungle Book, 5.....Century	1.50	1.09
175.	Land, Tales of Greece, 6.....L. G.	1.50	1.00
176.	Longsing, Page, Squire & Knight, 5, 8.....Ginn	.35	.29
177.	Longstreet, Georgia Scenes, 7.....Harper	1.25	.89
178.	Mims & Payne, Southern Prose and Poetry, 5, 6, 7, Scribner	.80	.65
179.	Mabic, Essays Every Child Should Know, 6, 8, Doubleday	.90	.75
180.	Mabic, Heroes Every Child Should Know, 6, 8, Doubleday	.90	.75
181.	Mabic, Heroines Every Child Should Know, 6, 8, Doubleday	.90	.75
182.	Moulton, Bible Stories, Vol. I and II, 4, 5, 6, MacM., each	.50	.43

183.	Page, Red Rock, 7, 8.....Scribner	1.50	1.00
184.	Powers, Stories of Famous Pictures, 6, 7, E. P. C.	.50	.40
185.	Page, Two Little Confederates, 5.....Scribner	1.50	1.00
186.	Page, Among the Camps, 5.....Scribner	1.50	1.00
187.	Page, Story Book, 5.....Scribner	.50	.43
188.	Palgraves, Golden Treasury of English Song, 6, 7, MacM.	.50	.43
189.	Parkman, Oregon Trail, 7.....MacM.	.50	.41
190.	Parton, Captains of Industry, Vol. I and II, 7, H. M. C., each	1.00	.81
191.	Patterson, The Spinner Family, 6.....McCl.	1.25	.89
192.	Richards, Captain January, 6.....Estes	1.25	.89
193.	Roosevelt, Hero Tales from American History, 6, 7 .....Century	1.50	1.00
194.	Spyri, Moni, the Goat Boy, 5, 6.....Ginn	.40	.33
195.	Starr, Strange People, 5.....Heath	.40	.33
196.	Twain, Prince and Pauper, 6, 7.....Harper	1.75	1.15
197.	Thayer, Ethics of Success, Bk. III, 5, 6, 7..Silver	.90	.75
198.	Wiggins, Birds' Christmas Carol, 5, 6....H. M. C.	.50	.41
199.	Wiggins, Story of Patsy, 5, 6.....H. M. C	.60	.49
200.	Wiggins, Polly Oliver's Problem, 7....H. M. C.	1.00	.67
201.	Wilson, Stories of Red Children, 5, 6.....Ginn	.40	.33
202.	Wyss, Swiss Family Robinson, 5.....Ginn	.45	.39
203.	Yonge, Book of Golden Deeds, 7.....MacM.	1.00	.67
204.	Adventures of Ulysses, 5.....Ginn	.50	.40
205.	Geographical Reader (Europe), 6.....A. B. C.	.70	.57
206.	Knights of the Round Table, 6.....Scribner	2.00	1.35
207.	Story of the Iliad, 6.....Penn	1.25	.89
208.	Ways of Wood Folk, 7.....Ginn	.50	.41
209.	Norse Stories, 7.....Rand	.40	.35
210.	Tales from Shakespeare, 7 (Lamb).....E. P. C.	.25	.20
211.	Childs' History of England, 7 (Dickens)....Burt	.50	.40
212.	Birds and Bees, 2 .....H. M. C.	.40	.35

GEOGRAPHY, TRAVEL AND NATURE STUDY.

Upper Grammar Grades.

213.	Abbot, South Seas, 6.....MacM.	.75	.61
214.	Baldwin, Wonder Book of Horses, 6, 7..Century	.75	.65
215.	Brigham, From Trail to Railway Train Through the Appalachians, 5, 6.....Ginn	.50	.41
216.	Geographic Influences in American History, 7, Ginn	1.25	1.00
217.	Butterworth, Zigzag Journeys, 5.....Estes Vol. I, Around the Wrold.		
218.	Vol. III, On the Mediterranean.		
219.	Vol. VII, In the British Isles.		
220.	Vol. IX, In India.		

221.	Vol. X, In the Sunny South.		
222.	Vol. XIV, In the Orient.		
223.	Vol. XVI, In Classic Lands.		
224.	Vol. XVIII, Stories of History, Travels and Adventures ..... each	1.50	1.00
225.	Carpenter, Africa, 4, 5, 6.....A. B. C.	.60	.49
226.	Carpenter, Asia, 6, 7.....A. B. C.	.60	.49
227.	Carpenter, Australia, 6, 7.....A. B. C.	.60	.49
228.	Carpenter, North America, 6, 7.....A. B. C.	.60	.49
229.	Carpenter, South America, 5, 6.....A. B. C.	.60	.49
230.	Coe, Modern Europe, 7.....Silver	.60	.52
231.	Chamberlin, How We are Clothed, 5, 6, 7..MacM	.43	.35
232.	Chamberlin, How We are Sheltered, 5, 6, 7, MacM.	.40	.35
233.	Chamberlin, How We are Fed, 5, 7.....MacM.	.40	.35
234.	Du Chaillu, Land of the Long Night, 5, 6.....	2.00	1.35
235.	Fennimore, England, 7.....MacM.	.75	.61
236.	Gaye, Great World Farm, 6, 7, 8.....MacM.	.75	..61
237.	Green, Coal and Coal Mine, 7.....H. M.	.75	.61
238.	Kirby, The Sea and its Wonders, 5, 6....Nelson	1.75	1.21
239.	Lyle, Man and His Markets, 6, 8.....MacM.	.50	.41
240.	Morris, Home Life in All Lands, Vol. I, 5, 6, Lippincott	.60	.52
241.	Patton, Natural Resources of the U. S., 6..A. B. C	.35	.29
242.	Porter, Stars in Song an Legend, 5, 6.....Ginn	.50	.41
243.	Rocheleau, Great American Industries, 6, 7, No. 1, Minerals .....A. F. C.		
244.	No. 2, Products of the Soil.		
245.	No. 3, Manufacturers .....each	.50	.41
246.	Seton, Wild Animals I Have Known, 6..Scribner	2.00	1.47
247.	Stone, Trees in Prose and Poetry, 5, 7.....Ginn	.45	.39
248.	Shaler, Story of Our Continent, 6.....Ginn	.75	.61
249.	Slocum, Around the World in the Sloop Spray, 6, 7, ...Scribner	.50	.41
250.	Webster, General History of Commerce, 7, 8 ,Ginn	1.50	1.21
251.	Winslow, Our American Neighbors, 5.....Heath	.60	.49

HISTORY, BIOGRAPHY AND HISTORICAL FICTION.

For Upper Grammar Grades.

252.	Baldwin, Abraham Lincoln, 7.....A. B. C.	.60	.49
253.	Bass, Stories of Pioneer Life, 5, 6.....Heath	.40	.33
254.	Bryant, Border Boys, 6.....Lothrop	.75	.61
255.	Brooks, Century Book of American Colonies, 5, 7	1.50	1.00
256.	Brooks, Century Book of American Revolution, 5, 7	1.50	1.00
257.	Washington and His Generals, 6, 7.....Harper	.60	.49
258.	Butterworth, In the Days of Jefferson, 6, 7, Appleton	1.50	1.00

259.	Butterworth, In the Days of Audubon, 6, 7, Appleton	1.50	1.00
260.	Church, Odyssy for Boys an Girls, 5, 6....MacM.	1.50	1.00
261.	Churchill, The Crisis, 7, 8.....MacM.	.50	.45
262.	Churchill, The Crossing, 7, 8.....MacM.	.50	.45
263.	Churchill, Richard Carvell, 7, 8.....MacM.	1.50	1.00
264.	Chappell, History Stories of Georgia, 5, 6, 7, Silver	1.00	.81
265.	Colonial Stories Retold from St. Nicholas, 5, 6, Century	.65	.53
266.	Cooper, Oglethorpe, 6, 7.....Appleton	1.00	.90
267.	Cooke, R. E. Lee, 6, 7.....Dillingham	.75	.61
268.	Cooke, Surrey of Eagle's Nest, 6, 8..Dillingham	1.50	1.00
269.	Cooke, Mohun, 7 .....Dillingham	1.50	1.00
270.	Cooke, Hilt to Hilt, 7.....Dillingham	1.50	1.00
271.	Curry, Government Confederate States, 7, 8, Johnson	1.25	1.00
272.	Draper, The Rescue of Cuba, 7.....Silver	1.00	.81
273.	Eggleston, Hoosier Schoolmaster, 7.....Scribner	1.00	.69
274.	Eggleston, Southern Soldier Stories, 7....MacM.	1.50	1.00
275.	Autobiography of Franklin, 6, 7.....Ginn	.40	.33
276.	Foa, Boy Life of Napoleon, 5, 6.....Lothrop	1.25	.89
277.	Guerber, Legends of the Middle Ages, 7..A. B. C.	1.50	1.21
278.	Frost, Swamp Fox, or Life of General Marion, 6, 7 .....Lothrop	.75	.50
279.	Grady, Stories of American Explorers, 5, 6, Scribner	.50	.43
280.	Hall, Half Hours in Southern History, 7..Johnson	.75	.61
281.	Hart, Source Readers in American History, 5, 7, MacM.		
	No. 1, Colonial Children.....	.60	.49
282.	No. 2, Camps and Firesides of Revolution....	.75	.61
284.	No. 3, How Our Grandfathers Lived.....	.60	.49
285.	Hazard, Indian Pioneers, 5.....Silver	.60	.49
286.	Higginson, Young Folks Book of Explorers, 5, 6, Longman	.15	.13
287.	Higginson, Columbus and His Companions, 5, 6, Longman	.15	.13
288.	Higginson, French in Canada, 5, 6.....Longman	.15	.13
289.	Higginson, Captain John Smith, 5, 6....Longman	.15	.13
290.	Higginson, Massachusetts Bay Colony, 5, 6, Longman	.15	.13
291.	Higginson, Cabot & Verrazano, 5, 6.....Longman	.15	.13
292.	Hill, Lessons for Junior Citizens, 6, 7.....Ginn	.50	.41
293.	Indian Stories from St. Nicholas, 5, 6....Century	.65	.53
294.	Kingsley, Westward Ho, 7, 8.....MacM.	.50	.43
295.	Lindsey, Daniel Boone, 6, 7.....Lippincott	1.50	1.00
296.	Johnson, Soldier Life in Army of Northern Virginia, 7 .....McC.	.50	.43

297.	McMurray, Pioneer Stories of Mississippi Valley, 5, ...MacM.	.40	.33
298.	McPherson, History of Civil Government in Georgia, 7, 8 .....H. & N.	1.00	.86
299.	Mowry, American Inventions and Inventors, 6, 7, Silver	.65	.56
300.	Pratt, America's Story for American Children, 5. **1.** Discoveries and Explorers.....Heath		
301.	**2.** Early Colonies.		
302.	**3.** Later Colonies .....each	.40	.33
303.	Hoadly, Napoleon and His Marshals, 7, 8..Harper	.75	.40
304.	Smith, Settlements in America, 6.....Merrill	.12	.12
305.	Smith, Stories of Georgia, 5.....Ginn	.60	.49
306.	Sparks, Expansion of American People, 7, 8, S. F. & Co.	.60	.49
307.	Stowe, Uncle Tom's Cabin, 7.....H. M. C.	.70	.50
308.	Williamson, Life of Lee, 5.....Johnson	.35	.29
309.	Williamson, Life of Jackson, 5.....Johnson	.40	.33

LITERATURE FOR THE HIGH SCHOOLS.

(See also list for Upper Grammar Grades.)

Selected Classics for 1913, 1914, 1915, for Reading and Practice.

Group I.

310.	Snyder, Old Testament Narratives.....Ginn	.30	.25
311.	Pope, Iliad (Ed. by Tappan).....Ginn	.25	.21
312.	Pope, Odyssey, (Ed. by Tappan).....MacM.	.25	.21
313.	Dryden, Aeneid (Ed. by Thomson).....Putnam	.40	.33

Group II.

314.	Shakespeare, Merchant of Venice.....E. P. C.	.25	.20
315.	Midsummer Night's Dream.....E. P. C.	.25	.20
316.	As You Like It.....E. P. C.	.25	.20
317.	Twelfth Night .....E. P. C.	.25	.20
318.	Henry the Fifth.....E. P. C.	.25	.20
319.	Julius Caesar .....E. P. C.	.25	.20

Group III.

320.	DeFoe, Robinson Crusoe, Part I.....E. P. C.	.25	.20
321.	Goldsmith, Vicar of Wakefield.....E. P. C.	.25	.20
322.	Scott, Ivanhoe .....Silver	.50	.41
323.	Scott, Quentin Durward .....Silver	.40	.33
324.	Hawthorne, House of Seven Gables.....Silver	.50	.41
325.	Dickens, David Copperfield .....Burt	.75	.24
326.	Dickens, Tale of Two Cities.....Burt	.75	.24
327.	Thackeray, Henry Esmond .....Ginn	.60	.49

328. Gaskell, Cranford	Ginn	.30	.25
329. Eliot, Silas Marner	Ginn	.30	.25
330. Stevenson, Treasure Island	Burt	.75	.24

GROUP IV.

331. Bunyan, Pilgrim's Progress	Ginn	.30	.25
332. Addison, Sir Roger de Coverly	Ginn	.25	.20
333. Franklin's Autobiography	Ginn	.25	.21
334. Irving, Sketch Book	Silver	.45	.39
335. McCaulay, Lord Cleve and Warren Hastings,	Silver	.25	.20
336. Thackeray, English Humorists (Ed. by Castleman)	MacM.	.25	.21
337. Selections from Lincoln (Two Inaugural Speeches; Independence Hall Speech; Gettysburg Speech; Last Public Address; Letter to Horace Greeley; and a brief estimate or memoir of Lincoln)	Ginn	.30	.25
338. Selections from Huxley (including Autobiography and selections from Lay Sermons; A Liberal Education; A Piece of Chalk, and Improving Natural Knowledge)	Ginn	.30	.25
339. Stevenson, Inland Voyages and Travels with a Donkey	A. B. C.	.40	.33
340. Parkman, Oregon Trail	Ginn	.45	.39
341. Field. Little Book of Profitable Tales.			

GROUP V.

342. Palgrave, Golden Treasury, 1st Series	Dutton	.50	.41
343. Gray, Eulogy in a Country Churchyard	MacM.	.25	.23
344. Goldsmith, Deserted Village	E. P. C.	.25	.20
345. Coleridge, Rime of Ancient Mariner	E. P. C.	.25	.20
346. Lowell, Vision of Sir Launfal	E. P. C.	.25	.20
347. Scott, Lady of the Lake	E. P. C.	.25	.20
348. Byron, Childe Harold, Canto IV, and Prisoner of Chillon	E. P. C.	.25	.20
350. Poe's Raven and other Poems	Ginn	.25	.21
351. Longfellow, Courtship of Miles Standish	E. P. C.	.25	.20
352. Whittier, Snowbound	E. P. C.	.25	.20
353. Macaulay, Lays of Ancient Rome	E. P. C.	.25	.20
354. Arnold, Sohrab and Rustum	E. P. C.	.25	.20
355. Tennyson, Gareth and Lynette, Lancelot and Elaine, and Passing of Arthur	Ginn	.25	.20
356. Selected Poems from Browning	Ginn	.25	.20

FOR CAREFUL STUDY.

357. Shakespeare, Macbeth	E. P. C.	.25	.20
358. Milton, L'Allegro and Il Penseroso and Comus,	E. P. C.	.25	.20

359. Burke, Speech on Conciliation ..... E. P. C.	.25	.20
360. Washington's Farewell Address and Webster's Bunker Hill Oration ..... Merrill	.25	.23
361. Macaulay, Life of Johnson ..... E. P. C.	.25	.20
362. Carlyle, Essay on Burns ..... E. P. C.	.25	.20

Poetry.

363. Gayley, Poetry of the People ..... Ginn	.50	.41
364. Knowles, Golden Treasury of American Songs and Lyrics ..... Ginn	1.50	1.21
365. Lanier, Poems ..... Scribner	2.00	1.35
366. Milton, Paradise Lost (complete) ..... Dodge	1.25	1.00
367. Palgrave, Golden Treasury, 2nd Series ..... MacM.	.25	.21
368. Parrott, English Poems from Chaucer to Kipling Ginn	.90	.75
369. Scott, Poems ..... G. & D.	1.00	.59
370. Sheridan, The Plays ..... Dutton	.35	.25
371, 372, 373. Shakespeare, 3 vols., Best Bk. Series Dutton, each	1.00	.69
374. Tennyson, Poems, Cambridge edition .... H. M. C.	1.00	.80
375. Longfellow, Poems, Cambridge Edition ... H. M. C	2.00	1.25
376. Holmes, Poems ..... G. & D.	1.00	.55
377. Whittier, Poems ..... G. & D.	1.00	.55
378. Lowell, Poems ..... G. & D.	1.00	.55
379. Newcomer & Andrews, Twelve Centuries of English Poetry and Prose ..... S. F. C.	2.00	1.47
380. Weber, Southern Poems, Valuable Collection, MacM.	25	.21

Fiction.

(See also list for Upper Grammar Grades.)

381. Allen, Kentucky Cardinal ..... MacM.	1.00	.87
382. Austin, Pride and Prejudice ..... Burt	.75	.24
383. Aguilla, Days of Bruce ..... Burt	1.00	.69
384. Black, Judith Shakespeare ..... Harper	1.00	.90
385. Blackman, Lorna Doone ..... Burt	.75	.24
386. Cooper, The Last of the Mohicans ..... Burt	.75	.24
387. Cooper, The Prairie ..... Burt	.75	.24
388. Dana, Two Years Before the Mast ..... Burt	.75	.24
389. Dickens, Oliver Twist ..... Burt	.75	.24
390. Dickens, Nicholas Nickleby ..... Burt	1.00	.45
391. Dickens, Paul Dombey ..... Burt	.50	.41
392. Dickens, Old Curiosity Shop ..... Burt	.75	.24
393. Doyle, The White Company ..... Burt	1.00	.40
394. Evans, Beulah ..... Burt	.75	.24
395. Evans, St. Elmo ..... Burt	.75	.24
396. Eliot, Romolo ..... Burt	.75	.24

397. Eliot, Mill on the Floss	Burt	.75	.24
398. Hugo, Les Miserables	Burt	1.00	.69
399. Johnston, The Long Roll	H. M. C	1.40	1.26
400. Kipling, Captains Courageous	Century	1.50	1.00
401. Lytton, Last Days of Pompeii	Burt	.75	.24
402. Lytton, Rienzi	Burt	.75	.24
403. Lytton, Harold	Burt	1.00	.45
404. Lytton, Last Days of the Barons	Burt	1.25	.89
405. Munroe, Canoemates	Harper	1.25	.89
406. Muhlback, Frederick the Great and His Court	Burt	.75	.24
407. Porter, Thaddeus of Warsaw	Burt	.75	.24
408. Porter, Scottish Chiefs	Burt	.75	.24
409. Rice, Mrs. Wiggs of Cabbage Patch	Century	1.00	.69
410. Stevenson, Dr. Jekyll and Mr. Hyde	Burt	.75	.24
411. Scott, Rob Roy	Burt	.75	.24
412. Scott, Talisman	Burt	1.00	.45
413. Scott, Heart of Midlothian	Burt	1.00	.45
414. Thackeray, The Virginians	MacM.	1.00	.69
415. Weyman, A Gentleman of France	G. & D.	.50	.45

Short Stories.

416. Dickens, Christmas Carols	E. P. C.	.25	.21
417. Field, Little Book of Profitable Tales	Scribner	.50	.41
418. Hawthorne, Snow Image		.25	.21
419. Hart, Luck of Roaring Camp	G. & D.	.50	.45
420. Hale, Man Without a Country	Fl.	.50	.41
421. McLaren, Beside the Bonnie Brier Bush	Hurst	.35	.24
422. Page, Santa Claus' Partner	Scribner	1.50	1.00
423. Matthews, The Short Story	A. B. C.	1.00	.81

Essays.

424. Carlyle, Heroes and Hero Worship	E. P. C	.25	.21
426. Bacon's Essays	Dutton	.35	.29
427. Holmes, Autocrat at the Breakfast Table	Burt	.75	.24
428. Howells, Literary Friends and Acquaintances	Harper	2.00	1.37
429. Johnson, Rasselas	E. P. C.	.25	.20
430. Lamb, Essays	Ginn	.50	.41
431. Macaulay, Essays on Addison and Milton	Ginn	.30	.25
432. Ruskin, Selected Essays and Letters	Ginn	.60	.49

Travel.

(See also list for Upper Grammar Grades.)

433. Burroughs, Afoot and Afloat	H. M. C.	.25	.21
434. Davis, The West from a Car Window	Harper	1.25	.89
435. Griffs, Brave Little Holland	H. M. C.	.75	.61

436.	Carson, From Cairo to the Cataract .....Page	2.50	1.68
437.	Irving, Tales of a Traveler .....E. P. C.	.25	.21
438.	Irving, The Alhambra .....Burt	.75	.24
439.	Peary, Northward Over the Ice, Vols. I and II, Stokes, each	2.50	2.00
440.	Stevenson, Across the Plains.....	.75	.61
441.	Roosevelt, Hunting Trips of a Ranchman	1.50	1.00
442.	Taylor, Views Afoot .....Burt	.75	.24

ORATIONS.

443	Grady, The New South, and other Orations, Merrill	.25	.23
444.	Shurter, Masterpieces of Modern Oratory....Ginn	1.00	.81
445.	McConnell, Southern Orators .....MacM.	.25	.21
446.	Mims & Payne, Southern Orations Found in Southern Prose and Poetry .....Scribner	.80	.65
	Elson, Side Lights on American History, Prose and Poetry .....Scribner	.80	.65

BIOGRAPHY.

(See also list for Upper Grammar Grades.)

447.	Boswell, Life of Johnson .....Dutton	1.00	.80
448.	Froude, Caesar .....Harper	.60	.49
449.	Fiske-Irving, Life of Washington .....Ginn	.60	.49
450.	Plutarch, Lives .....Ginn	.25	.21
451.	Irving, Life of Goldsmith .....E. P. C.	.25	.21
452.	Trevelyn, Life and Letters of Macaulay	.25	.21
453.	Washington, Up from Slavery	1.00	.69
	Abbott, Biographies, 32 Vols .....Harper		
454.	Louis Phillipe.		
455.	Mary Queen of Scots.		
456.	Richard I.		
457.	Madame Roland.		
458.	Pyrrhus.		
459.	Cyrus.		
460.	William the Conqueror.		
461.	Elizabeth.		
462.	Hannibal.		
463.	Josephine.		
464.	Hortense.		
465.	Charles I.		
466.	Henry IV.		
467.	Darius.		
468.	Alfred.		
469.	Cleopatra.		
470.	Marie Antoinette.		
471.	Genghis Khan.		
472.	Peter the Great		

473.	Julius Caesar.		
474.	Louis XIV.		
475.	Richard II.		
476.	Charles II.		
477.	Alexander.		
478.	Cortez.		
479.	Romulus.		
480.	King Philip.		
481.	Xerxes.		
482.	Joseph Bonaparte.		
483.	Nero.		
484.	Margaret of Anjou.		
485.	Napoleon.		
	Each	.50	.28

Criticism.

486.	Taine, English Literature	2.00	1.47
487.	Brooks, Ten Plays of Shakespeare .....Holt	2.25	1.75
488.	Brookes, Tennyson, His Art, etc.....Putnam	2.00	1.47
489.	Jameson, Characteristics of the Women of Shakespeare .....MacM.	.50	.41
490.	Lowell, My Study Windows .....H. M. C.	2.00	1.47
491.	Steadman, Poets of America .....H. M. C.	2.25	1.75
492.	Oliphant, Victorian Age of English Literature, Crowell	1.25	.89

History.

	Elson, Side Lights on American History,		
493.	Volume I .....MacM.	.75	.61
	Longman	.50	.41
494.	Volume II .....MacM.	.75	.61
495.	Twaits, The Colonies .....Longman	1.25	1.04
496.	Hart, Formation of the Union .....Longman	1.25	1.04
497.	Church, Roman Life in the Days of Cicero,		
498.	Church, Stories from Herodotus .....Merrill	.25	.23
499.	Creasey, Fifteen Decisive Battles .....Harper	1.00	.69
	Robinson-Beard, Development of Modern Europe.		
500.	Volume I .....Ginn	1.25	1.00
501.	Volume II .....Ginn	1.25	1.00
502.	Shemway, A Day in Ancient Rome .....Heath	.75	.61

Note: See also list of history books for teachers and those of Upper Grammar Grades.

TEACHERS' BOOKS.

Reading.

503.	Atkinson, On the Right Use of Books.....Little	.50	.41
504.	Bates, Talks on the Study of Literature..H. M. C.	1.50	1.00
505.	Bryant, Talks on Writing English.....H. M. C.	1.50	1.00
506.	Bryant, How to Tell Stories to Children..H. M. C.	1.00	.81
507.	Legouve, Reading as a Fine Art.....Penn	.50	.41
508.	McMurray, Special Method in Primary Reading MacM.	.60	.49
509.	Skinner, Selections for Memorizing.....Silver	.60	.52
	Wilson, Picture Study in Elementary Schools.		
510.	Volume I .....MacM.	1.25	1.00
511.	Volume II .....MacM.	1.25	1.00
512.	Wright, Stories in American Literature..Scribner	1.25	1.00

Nature Study.

513.	Bailey, The Nature Study Idea.....MacM.	1.25	1.00
514.	Comstock, Hand Book of Nature Study...C. P. C	3.25	2.75
515.	Hodge, Nature Study and Life.....Ginn	1.50	1.21
516.	Keffer, Nature Study on the Farm.....A. B. C.	.40	.33
517.	Schumacher, Study of Nature .....Lippincott	1.25	1.00
518.	Holtz, Nature Study .....Scribner	1.50	1.35
519.	Apgar, Birds of America .....A. B. C.	1.00	.81
520.	Dana, How to Know Wild Flowers.....Scribner	2.00	1.35
521.	Lounsbery, Guide to Trees.....Stokes, net	1.75	1.59
522.	Rodgers, Trees That Every Child Should Know Doubleday	1.20	1.12
523.	Comstock, Ways of the Six-Footed.....Ginn	.40	.33

Agriculture.

524.	Bailey, Principles of Agriculture.....MacM.	1.25	1.00
525.	Burkett, Agriculture for Beginners.....Ginn	.72	.61
526.	Duggar, Southern Field Crops.....MacM.	1.75	1.21
527.	Duggar, Agriculture for Southern Schools, MacM.	.75	.61
528.	Hemenway, How to Make School Gardens, Doubleday	1.00	.90
529.	Hunn & Bailey, Practical Garden Work, MacM.	1.00	.81
530.	Lodaman, Spraying of Plants.....MacM.	1.25	1.00
531.	Watson, Farm Poultry .....MacM.	1.25	1.00
532.	Reed, The School Garden Book.....Scribner	1.25	1.00
533.	Hall, Three Acres and Liberty .....G. D.	.50	.45

Geography.

534.	Adams, Commercial Geography .....Appleton	1.50	1.21
535.	Geikie, Teaching of Geography.....MacM.	.60	.49
536.	McMurray, Special Method in Geography, MacM.	.70	.57

537.	Nichols, Topics in Geography	Heath	.75	.61
538.	Waldo, Elementary Meteorology	A. B. C.	1.50	1.21

History.

	Old South Leaflets (Directors of Old South Works, Old South Meeting House, Boston). Over 200 in number. May be also had in bound volumes of 25 leaflets. Each		.05	.05
	Also		.75	.75
	Historical Classic Readings (send for list)	Merrill	.12	.12
539.	Harte & Canning, Colonial and Constitutional Leaflets	Simmons		
	36 numbers	each	.10	.10
540.	Little Classic Series	Merrill		
	(Send for list)	each	.12	.12
541.	Brown, The Teaching of History	MacM.	1.25	1.00
	Bryce, The American Commonwealth,			
542.	Volume I	MacM.	2.00	1.60
543.	Volume II	MacM.	2.00	1.60
544.	Fling, A Source Book of Greek History	Heath	1.10	.90
545.	Hill, The Liberty Documents	Longmans	2.00	1.67
546.	Lansing & Jones, Government, Its Origin, Growth and Form in the U. S	Silver	.72	.62
547.	Mahaffey, Old Greek Life	A. B. C.	.35	.29
548.	Johnston, The Private Life of the Romans, net	S. F. C.	1.50	1.35
549.	Munroe, A Source Book of Roman History	Heath	1.00	.81
550.	Ogy, Source Book of Medieval History	A. B. C.	1.50	1.21
551.	Robinson & Beard, Reading in Modern European History	Ginn	1.50	1.21
	Robinson, Readings in European History,			
552.	Volume I	Ginn	1.50	1.21
553.	Volume II	Ginn	1.50	1.21
554.	Wilkins, Roman Antiquity	A. B. C.	.35	.29

Manual Arts.

555.	Allan, Manual Training for Common Schools,	Scribner	1.00	.81
556.	Lincoln, Boston School Kitchen Text-Books,	Little	1.00	.81
557.	McCormack, Spool Knitting	Barnes	1.00	.81
558.	Page & Corley, Occupations for Little Fingers,	Manual Arts Press	1.00	.81
559.	Sanford, Arts Crafts for Beginners	Century	1.20	1.12
560.	Swannell, Rafia Work	Barnes	.75	.61
561.	Tinsley, Practical and Artistic Basketry	Barnes	1.00	.81

562. Williams, Elements of the Theory and Practice of Cookery .....MacM. 1.10 .90
563. Woolman, A Sewing Course .....Farnall 1.50 1.21

Theory and Practice.

564. Arnold, Waymarks for Teachers.....Silver 1.25 1.00
565. Arnold, Plans for Busy Work.....Silver .50 .41
566. Bagley, Class Management .....MacM. 1.25 1.00
567. Brown, The American High School.....MacM. 1.50 1.20
568. Colgrove, The Teacher and the School....Scribner 1.25 1.00
569. Daveport, Education for Efficiency.....Heath 1.00 .81
570. Densmore, Teaching of District Schools..A. B. C. 1.00 .81
571. Foucht, The American Rural School.....MacM. 1.25 1.00
572. Kern, Among Country Schools.....Ginn 1.25 1.00
573. McMurray, How to Study.....H. M. C. 1.25 1.00
574. Munroe, History of Education.....MacM. 1.25 1.00
575. Halleck, Elementary Psychology.....A. B. C. 1.25 1.00

Ethical.

576. Clarke, Self Culture .....Osgood 1.50 1.21
577. Dewey, Lessons on Morals.....Hinds .75 .61
578. Palmer, Ethical and Moral Instruction in Schools H. M. C. 1.25 1.00
579. Marden, Character .....Crowell .35 .29
580. Marden, Good Manners .....Crowell .35 .29
581. Marden, An Iron Will.....Crowell .35 .29
582. Marden, Cheerfulness as a Life Power....Crowell .35 .29
583. Marden, The Hour of Opportunity.....Crowell .35 .29
584. Miller, Making Most of Life.....Crowell .75 .61

Miscellaneous.

585. Allan, Civics and Health.....Ginn 1.25 1.00
586. Jewett, Good Health .....Ginn .40 .35
587. Gulick, Emergencies .....Ginn .40 .35
588. Bancroft, School Gymnastics.....Heath 1.50 1.21
589. Gaynor, Songs in Season.....Flanagan .75 .61
590. Newton, Graded Poems and Rythmic Exercises Barnes 1.25 1.00
591. Gregory, Checking the Waste.....Bobbs, M. 1.25 1.00

Reference Books.

592. Webster's New International Dictionary, new edition, full sheep bound, thumb index, G. & C. M. 12.00 10.80
593. Webster's Academic Dictionary.....A. B. C. 1.50 1.20

594. The Teacher's and Pupil's Cyclopedia. Six large, handsome, three-quarter leather bound volumes. Absolutely new and up to date; 2,400 pages, 15,000 subjects treated, 5,000 classified questions, 1,200 gems of literature, 1,500 illustrations and colored plates, complete topical index, maps, etc. A complete library of classified knowledge treating of geography, history, economics, law, theology, medicine, mythology, fine arts, etc. .....H. P. C. 21.75 12.50

COURSE OF STUDY.

Books Adopted by the State School Book Commission for Five Years, Beginning January 1, 1914.
Changes in School Books may be made at any time prior to September 1, 1914.

	READING	WRITING	ARITHMETIC	ENG. LESSONS AND GRAMMAR	HISTORY AND CIVICS	SPELLING	GEOGRAPHY	PHYSIOLOGY	AGRICULTURE
FIRST READER CLASSES.	Practical Primer Practical First Reader Supplementary Reading Optional See State List.	Copying Words and Sentences on Tablet. Berry's Writing Book I.	Counting and Writing Numbers. Oral and Written Work in Simple Numbers.	Oral Language Lessons.	Obedience, Courage, Courtesy, and the other virtues taught by Story and Illustration.	Words from the Reading Lessons.	Simple Oral Work in Home Geography.	Health Talks and Physical Culture.	Nature Study, Pets and Animals.
SECOND READER CLASSES.	Practical Second Reader. Supplementary Reading Optional See State List.	Berry's Writing Book II.	Wentworth's New Elementary Arithmetic to Page 93.	Oral and Written Language Lessons.	Stories of Great Men and Women. Reproduction.	Branson's Speller, Book I to page 40.	Oral Work in Home Geography.	Health Talks and Physical Culture.	Nature Study, Birds.
THIRD READER CLASSES.	Practical Third Reader. Supplementary Reading Optional See State List.	Berry's Writing Book III.	Wentworth's New Elementary Arithmetic to Page 160.	Oral and Written Language Lessons, Simple Composition.	Stories of Great Men and Women. Reproduction.	Branson's Speller, Book I to page 70.	Oral Work in Home Geography.	Health Talks and Physical Culture.	Nature Study, Flowers.
FOURTH READER CLASSES.	Graded Literature Reader, Fourth Book. Supplementary Reading Optional See State List.	Berry's Writing Book IV.	Wentworth's New Elementary Arithmetic to Page 218.	Modern Course in English Book I.	Stories of Great Men and Women. Reproduction.	Branson's Speller, Book I Completed.	Frye's Elementary Geography to page 87.	Health Talks and Physical Culture.	Nature Study, Trees.
FIFTH READER CLASSES.	Graded Literature Readers, Fifth Book. Supplementary Reading Optional See State List.	Berry's Writing Book V.	Wentworth's New Elementary Arithmetic Completed.	Modern Course in English Book I. Completed.	Beginner's History of Our Country.	Swinton's Word Book to page 43.	Frye's Elementary Geography Completed.	Health Talks and Physical Culture.	Nature Study, Insects.
SIXTH READER CLASSES.	Read with Fifth Grade, or use Supplementary Reader on List.	Berry's Writing Book VI.	Milne's Progressive Arithmetic, Book II. Ga. Edition to Page 167.	Modern Course in English Book II.	Brooks' History of Georgia Completed. Evans' Essential Facts of American History Begun.	Swinton's Word Book to page 91.	Frye's Higher Geography to page 88 and Ga. Supplement.	Health Talks and Physical Culture.	Nature Study, Soils and Minerals.
SEVENTH READER CLASSES.	Read with Fifth Grade, or use Supplementary Reader on List.	Berry's Writing Book VII.	Milne's Progressive Arithmetic, Book II. Ga. Edition Completed.	Modern Course in English Book II. Completed.	Evans' Essential Facts Concluded Peterman's Civil Government, Ga. Edition.	Swinton's Word Book Completed.	Frye's Higher Geography, Completed. Review Pages 1 to 33.	Ritchie-Caldwell Primer of Hygiene and Sanitation.	Hunnicutt's Agriculture, Revised by DeLoach.

In schools having only one teacher, it may be necessary to alternate two studies as well as to require the Sixth and Seventh Grades to read with the Fifth.

Require Composition work; letters, written exercises and declamations in connection with the regular lessons.

The School Law requires all pupils to take all the studies in their respective grades. Require every pupil to take written examinations. Those pupils of the seventh grade who make an average of 80 per cent. in the annual examination, may receive a Certificate.

M. L. BRITTAIN.
State Superintendent of Schools.

BOOKS ADOPTED FOR THE HIGH SCHOOL GRADES.

SUBJECT	BOOK ADOPTED AND PUBLISHER	CLOTH	
		Retail Price	Exchange Price
English	English Grammar for High Schools, D. C. Heath & Co. (Southern School Book Depository, Atlanta)	$ .63	$ .31
	Curry's Literary Readings, Rand McNally Co. (Southern School Book Depository, Atlanta)	.60	.30
	Mims & Payne's Southern Prose and Poetry, Chas. Scribner's Sons (Sou. School Book Depository, Atlanta)	.65	
	The MacMillan Classics, Pocket Edition, MacMillan Co. (Southern School Book Depository, Atlanta)	.23	
	Sandwich and Bacon's Speller, D. C. Heath & Co. (Southern School Book Depository, Atlanta)	.36	.18
	Merkley & Ferguson's Composition-R etoric, Newson & Co. (Southern School Book Depository, Atlanta)	.80	.40
	Metcalf's History of English Literature, B. F. Johnson Publishing Co. (Sou. Sch. Book Depository, Atlanta)	1.10	.55
	Halleck's History of American Literature, American Book Co., Atlanta	1.13	.56
Mathematics	Marsh's Elementary Algebra, Chas. Scribner's Sons (Southern School Book Depository, Atlanta)	.55	.27
	Durell's Advanced Arithmetic, Chas. E. Merrill Co. (Southern School Book Depository, Atlanta)	.64	.32
	Durell's Plane Geometry, Chas. E. Merrill Co. (Southern School Book Depository, Atlanta)	.75	.37
	Well's Trigonometry, D. C. Heath & Co. (Southern School Book Depository, Atlanta)	.75	.37
History	Coman & Kendall's Short History of England, MacMillan Co. (Southern School Book Depository, Atlanta)	.90	.45
	Botsford's History of the Ancient World, MacMillan Co. (Southern School Book Depository, Atlanta)	1.35	.67
	West's Modern History, Allyn & Bacon (Southern School Book Depository, Atlanta)	1.50	
	Cousins & Hill's American History D. C. Heath & Co. (Southern School Book Depository, Atlanta)	1.25	.62
Science	Dryer's High School Geography, Complete, American Book Co., Atlanta	1.17	.58
	Warren's Elements of Agriculture, MacMillan Co. (Soutnern School Book Depository, Atlanta)	.90	.45
	Bailey & Coleman's First Lessons in Biology, MacMillan Co. (Southern School Book Depository, Atlanta)	1.10	.55
	Gorton's Physics, D. Appleton & Co. (Southern School Book Depository, Atlanta)	1.03	.51
	Hessler & Smith's Chemistry with Manual, Benj. H. Sanborn & Co. (Sou. School Book Depository, Atlanta)	1.25	.62
Bookkeeping and Commercial Law	Williams & Rogers' First Lessons in Bookkeeping, American Book Co., Atlanta	.63	.31
	Nichols & Rogers' Commercial Law, American Book Co., Atlanta	.54	.27
Languages	Bennett's Latin Grammar, Allyn & Bacon (Southern School Book Depository, Atlanta)	.80	.40
	Pearsons Essentials of Latin for Beginners, American Book Co., Atlanta	.81	.40
	Fraser & Squair's Shorter French Course, D. C. Heath & Co. (Southern School Book Depository, Atlanta)	1.10	.55
	Wesselhoeft's Elementary German Grammar, D. C. Heath & Co. (Southern Book Depository, Atlanta)	.90	.45
	Hills & Ford's Spanish Grammar, D. C. Heath & Co. (Southern School Book Depository, Atlanta)	1.25	

SUBJECT	BOOK ADOPTED AND PUBLISHER	CLOTH		BOARDS	
		Retail Price	Exch'ge Price	Retail Price	Exch'ge Price
Primer	Practical Primer, American Book Co., Atlanta	$ .16	$ .08	$ .14	$ .07
Readers	Practical First Reader, American Book Co., Atlanta	.18	.09	.16	.08
	Practical Second Reader, American Book Co., Atlanta	.20	.10	.18	.09
	Practical Third Reader, American Book Co., Atlanta	.27	.13	.25	.12
	Graded Literature Reader, Fourth Book, Chas. E. Merrill Co. (Sou. Sch. Book Dep., Atlanta)	.40	.20	------	------
	Graded Literature Reader, Fifth Book, Chas. E. Merrell Co. (Sou. Sch. Book Dep., Atlanta)	.40	.20	------	------
Arithmetic	Wentworth's New Elementary Arithmetic, Ginn & Co., Atlanta	.25	.12	------	------
	Milne's Progressive Arithmetic, Book II, Ga. Edition, American Book Co., Atlanta	.36	.18	.30	.15
Grammar	Modern Course in English, Book I., D. C. Heath & Co. (Sou. Sch. Book Dep., Atlanta)	.33	.16	------	------
	Modern Course in English, Book II., D. C. Heath & Co. (Sou. Sch. Book Dep., Atlanta)	.43	.21	------	------
Geography	Frye's Elementary Geography, Ginn & Co., Atlanta	.40	.20	------	------
	Frye's Higher Geography, Ginn & Co., Atlanta	.88	.44	------	------
History	Beginner's History of Our Country, Southern Publishing Co. (Sou. Sch. Book Dep., Atlanta)	.40	.20	------	------
	Brooks' History of Georgia, Atkinson, Mentzer & Co. (Sou. Sch. Book Dep., Atlanta)	.60	.30	------	------
	Evans' Essential Facts of American History, Benj. H. Sanborn & Co. (Sou. Sch. Book Dep., Atlanta)	.70	.35	------	------
Agriculture	Hunnicutt's Agriculture, Revised by DeLoach, Cultivator Publishing Co. (Sou. Sch. Book Dep., Atlanta)	.55	.27	.50	.25
Physiology	Ritchie-Caldwell Primer of Hygiene and Sanitation, World Book Co. (Sou. Sch. Book Dep., Atlanta)	.50	.25	------	------
Civics	Peterman's Civil Government, American Book Co., Atlanta	.54	.27	.44	.22
Spelling	Branson's First Book, B. F. Johnson Publishing Co. (Sou. Sch. Book Dep., Atlanta)	------	------	.12	.06
	Swinton's Word Book, American Book Co., Atlanta	------	------	.12	.06
Writing	Berry's Writing Books (Sou. Sch. Book Dep., Atlanta)	------	------	.05	------

Exchange rates have been secured from January 1, 1914, to September 1, 1915. In addition to the regular exchange shown above, promotional exchange has also been secured; for example, a parent possessing an old Second Reader will not only be able to exchange this for a new Second Reader at 50% of the contract price, but also for a Third.

SUPPLEMENTARY BOOKS ADOPTED FOR THE PRIMARY AND GRAMMAR GRADES.

Long term schools will need other books in addition to the basal texts shown above; in particular is this true with regard to reading. The following have, therefore, been adopted in order that lower prices may be obtained for these supplementary texts:

SUBJECT	BOOK ADOPTED AND PUBLISHER	CLOTH		BOARDS	
		Retail Price	Exch'ge Price	Retail Price	Exch'ge Price
Reading	Riverside Primer, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	$ .25	$ .12	------	------
	Riverside First Reader, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	.30	.15	------	------
	Riverside Second Reader, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	.35	.17	------	------
	Riverside Third Reader, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	.40	.20	------	------
	Riverside Fourth Reader, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	.45	.22	------	------
	Riverside Fifth Reader, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	.45	.22	------	------
	Riverside Sixth Reader, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	.45	.22	------	------
	Riverside Seventh Reader, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	.45	.22	------	------
	Child Classics Primer, Bobbs-Merrill Co. (Southern School Book Depository, Atlanta)	.15	.07	------	------
	American School First Reader, MacMillan Co. (Southern School Book Depository, Atlanta)	.24	.12	------	------
	American School Second Reader, MacMillan Co. (Southern School Book Depository, Atlanta)	.28	.14	------	------
	American School Third Reader, MacMillan Co. (Southern School Book Depository, Atlanta)	.32	.16	------	------
	Farm Life Reader, Book IV, Silver Burdett Co. (Southern School Book Depository, Atlanta)	.35	.17	------	------
	Farm Life Reader, Book V, Silver Burdett Co. (Southern School Book Depository, Atlanta)	.40	.20	------	------
	Selections from the Riverside Literature Series, for Sixth Grade Reading, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	.38	.19	------	------
	Selections from the Riverside Literature Series, for Seventh Grade Reading, Houghton, Mifflin Co. (Southern School Book Depository, Atlanta)	.38	.19	------	------
	Graded Classics, First Reader, B. F. Johnson Publishing Co. (Southern School Book Depository, Atlanta)	.20	.10	$ .15	$ .07
	Graded Classics, Third Reader, B. F. Johnson Publishing Co. (Southern School Book Depository, Atlanta)	.27	.13	.22	.11
	Graded Classics, Third Reader, B. F. Johnson Publishing Co. (Southern School Book Depository, Atlanta)	.32	.16	.28	.14
	Studies in Reading by Searson & Martin, Book I, University Pub. Co. (Sou. Sch. Book Dep., Atlanta)	.35	.17	------	------
	Studies in Reading by Searson & Martin, Book II, University Pub. Co. (Sou. Sch. Book Dep., Atlanta)	.45	.22	------	------
	Studies in Reading by Searson & Martin, Book III, University Pub. Co. (Sou. Sch. Book Dep., Atlanta)	.56	.28	------	------
History	Evans' First Lesson in Georgia History, American Book Co., Atlanta (This is suggested for Fourth Grade use.)	.54	.27	------	------
Physiology	Woods-Hutchinson Health Series, Book II, Houghton, Mifflin Co. (Sou. School Book Depository, Atlanta) (This is suggested for Sixth Grade use.)	.62	.31	------	------